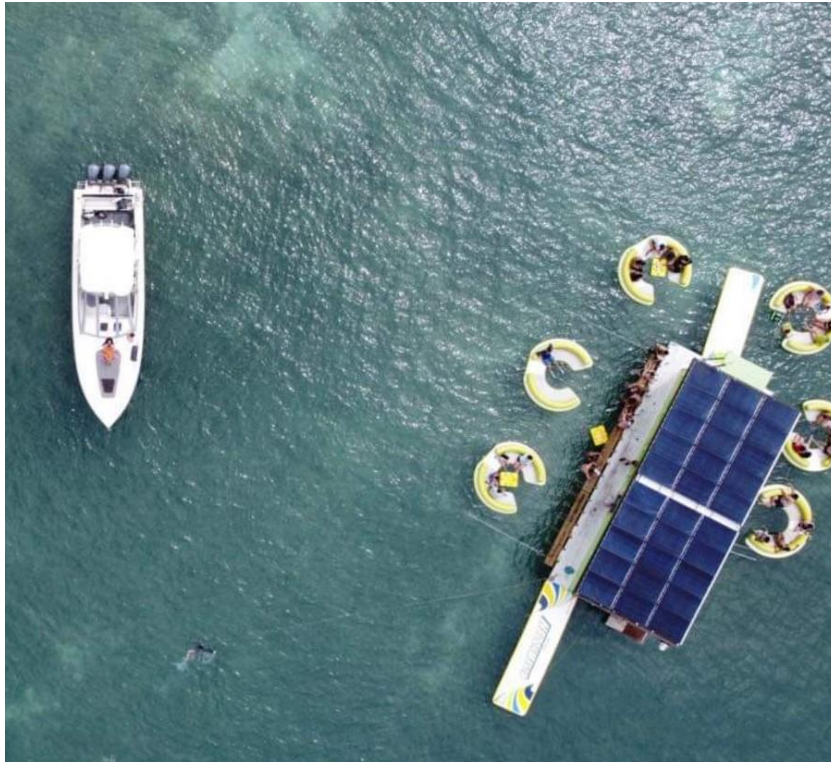


**MAJOR WATER
ENVIRONMENTAL ASSESSMENT REPORT
FOR
THE MOORING AND OPERATION OF
A FLOATING RESTAURANT AND
ASSOCIATED MOORINGS
LINDBERGH BAY, U. S. VIRGIN ISLANDS**



**SUBMITTED TO
THE OFFICE OF COASTAL ZONE MANAGEMENT
DEPARTMENT OF PLANNING AND NATURAL RESOURCES
GOVERNMENT OF THE VIRGIN ISLANDS**

U.S. ARMY CORPS OF ENGINEERS

SUBMITTED BY

LIME OUT, LLC

PREPARED BY

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APRIL 2021

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Bioimpact, Inc.

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Appendix III
Mooring Maintenance Plan/Seafloor Monitoring

Appendix IV
Hurricane Plan

1.00 Name and Address of Applicant

Lime Out 2, LLC
c/o Law Office of Kathryn J. DePree
PMB 233, 5000 Estate Enighed
St. John, Virgin Islands 00830

2.00 Location of Project

The proposed project site is located in Lindbergh Bay, on the southside of the island of St. Thomas. The proposed mooring site for the floating restaurant is Latitude 18.3326058 ° N and Longitude 64.9660576° W. Mooring locations are as follows:

18.3322968°N 64.9658199°W
18.3322421°N 64.9661693°W
18.3324656°N 64.9664427°W
18.3328078°N 64.9664260°W
18.3330075°N 64.9661427°W
18.3329148°N 64.9658033°W
18.3326010°N 64.9656607°W
18.3325892°N 64.9653099°W
18.332159°N 64.966484°W
18.332987°N 64.966673°W

The following location maps depict the mooring site in Lindbergh.



Figure 2.00.1 Location of the Proposed Floating Take-Out Restaurant in Lindbergh Bay



Figure 2.00.2 Vicinity Map of Floating Restaurant

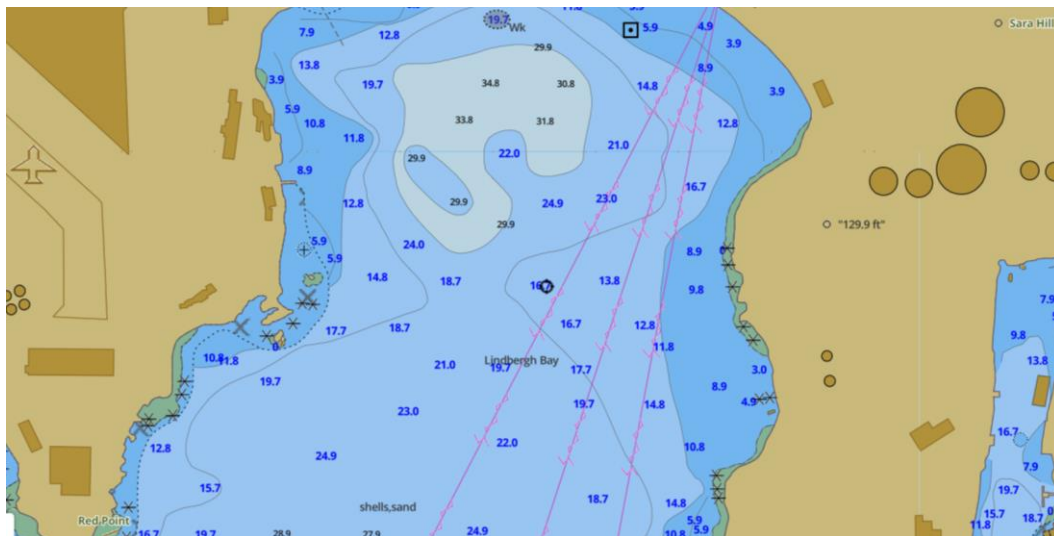


Figure 2.00.3 Bathymetry Map of Restaurant location.

3.00 Abstract

Lime Out 2, LLC (the “Applicant”) is proposing to moor a floating take-out restaurant in Lindbergh Bay, St. Thomas, and to install 10 moorings for vessels visiting the restaurant.

The floating restaurant will be 53’ in length and 20’ in width and anchored with 4 helix type anchors with floating lines to avoid impact to the seafloor. The floating restaurant has been located to avoid benthic resources and 10 moorings are proposed to minimize anchoring by restaurant patrons.

The floating restaurant will have single toilet with a holding tank for wastewater. The holding tank will be approximately 8 gallons and will be emptied on a daily basis. The floating take-out restaurant will have a 300-gallon gray water tank to collect any water

used for hand or minimal dish washing. The gray water tank will be emptied on a daily basis. The barge will utilize solar power and will have a small 1000gpd reverse osmosis plant to supply the freshwater for restaurant.

The restaurant will utilize an on-shore prep kitchen and will wash most of the dishes used onshore for the next.

4.00 Statement of Objectives Sought by the Proposed Project

The objective of the application is to permit a floating take-out restaurant in Lindbergh Bay which is easily accessible for tourist and residents alike.

5.00 Description of the Project

5.01 Summary of Proposed Activity

The vessel will be 53' in length and 20' in width and have a draft of 24". The vessel will have solar panels on the roof and will utilize solar power and have battery storage. The restaurant will use propane for cooking, will have an ice maker, a single bathroom and areas for merchandise displays and sales.

The vessel will be anchored by four helix anchor mooring systems with floated lines. The 10 moorings will all utilize helix anchors and will have floated lines.

The anchors will be installed by divers.

The floating restaurant will be removed from site during all inclement weather and sea conditions. The restaurant will be opened from 11:00am to 4:45pm.

5.01a Purpose of Project

The purpose of the application is to permit the mooring of a take-out floating restaurant in Lindbergh Bay.

5.01b Presence and Location of Any Critical Areas and Possible Trouble Spots

The selected location for the vessel moorings and the boat moorings are minimally colonized by seagrass, algal species and *Halophila stipulacea*. The vessel will have no waste-water discharge and will utilize a holding tank for septic and gray-water wastes. The vessel will have a brine discharge from a 1000gpd Reverse Osmosis plant.

The vessel and its proposed moorings are located away from coral resources and all moorings will use helix type anchors with floated lines to avoid benthic impacts.

5.01c Proposed Methods of Construction

The anchors and mooring tackle will be placed by divers. When the vessel requires

relocation the vessel will be towed by a 31' boat with two 300hp engines.

5.01d Provisions to Limit Site Disturbance

Surveys were done of the area and the mooring location and anchoring locations were selected to avoid benthic resources.

The Applicant will use helix type anchors and floating lines to prevent bottom disturbance

In the event of inclement weather or sea conditions, the vessel will be taken to a safe harbor, at present the proposed safe location is Flamingo Bay Pond.

5.01e Sediment Control Methods to be Implemented

The proposed mooring placement will have negligible short-term turbidity impacts during installation therefore no sediment controls are necessary.

5.01f Schedule for Construction Activities and Implementation of Sediment Control Measures

The proposed mooring placement will have negligible turbidity impacts therefore no sediment controls are necessary.

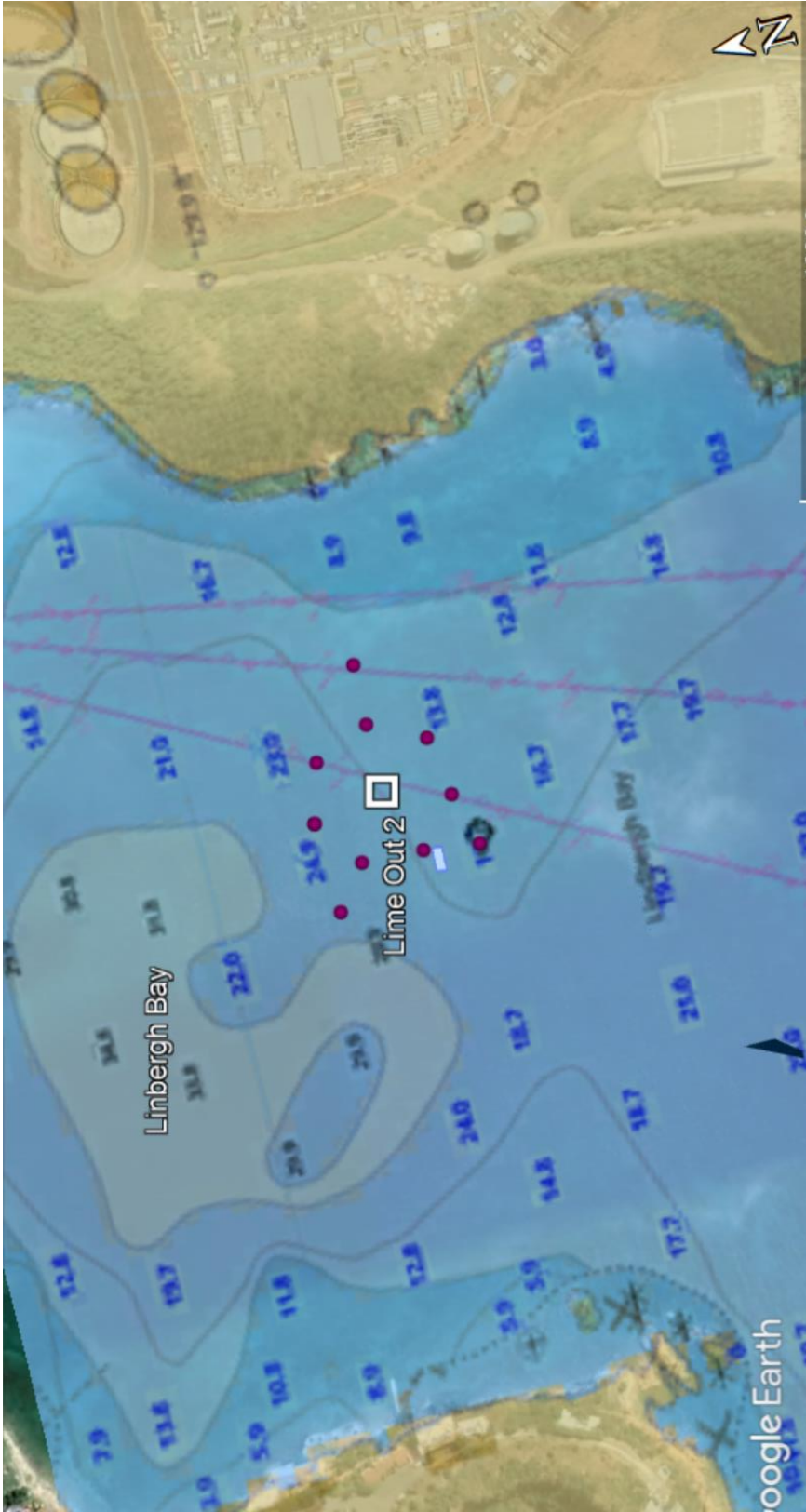
5.01g Maintenance of Sediment and Siltation Control Measures

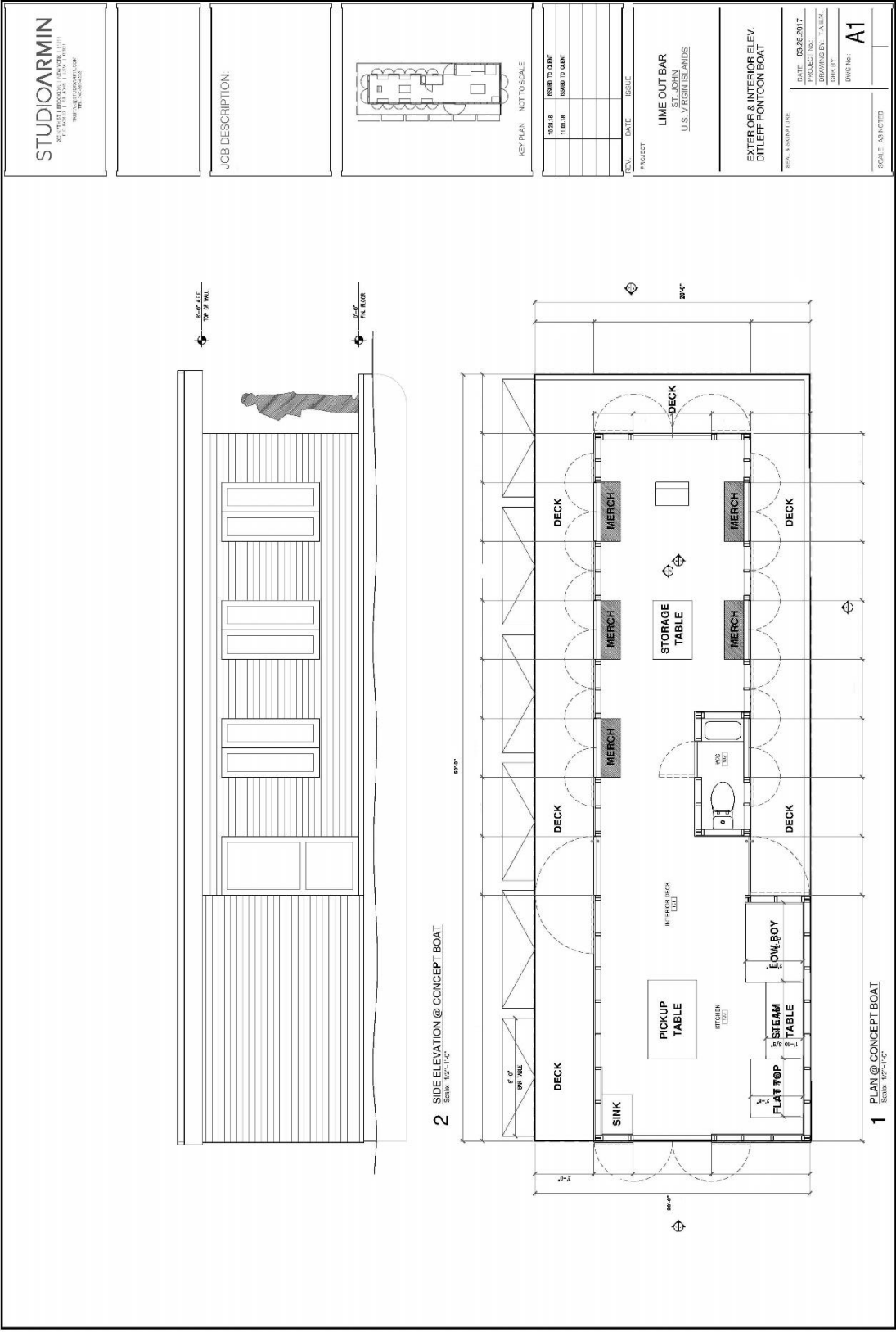
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5.02 Exhibits and Drawings

Drawing	Page
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Bathymetric Chart with mooring locations	9
Vessel Design, Elevation	10
Cross sections and Elevations	11
Helix Anchor Details	12

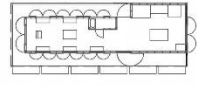






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JOB DESCRIPTION



KEY PLAN NOT TO SCALE

REV.	DATE	ISSUE
1	03.28.2017	ISSUE
2	03.28.2017	ISSUE
3	03.28.2017	ISSUE
4	03.28.2017	ISSUE
5	03.28.2017	ISSUE
6	03.28.2017	ISSUE
7	03.28.2017	ISSUE
8	03.28.2017	ISSUE
9	03.28.2017	ISSUE
10	03.28.2017	ISSUE

LIME OUT BAR
ST. JOHN
U.S. VIRGIN ISLANDS

EXTERIOR INTERIOR ELEV.
DITTEFF FONTON BOAT

DATE: 03.28.2017	PROJECT NO:
DRAWING BY: J.A.S.	CHECK BY:
UNIC NO:	UNIC NO:
A1	A1

SCALE: AS NOTED

2 SIDE ELEVATION @ CONCEPT BOAT

1 PLAN @ CONCEPT BOAT

KEY PLAN NOT TO SCALE

	10.29.18	ISSUED TO CLIENT
	11.05.18	ISSUED TO CLIENT

REV.	DATE	ISSUE
PROJECT		

LIME OUT BAR
ST. JOHN
U.S. VIRGIN ISLANDS

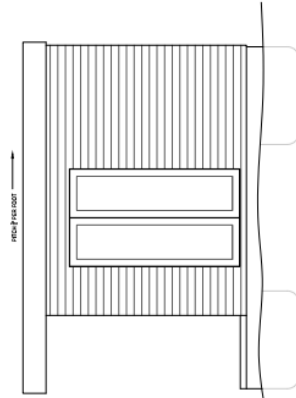
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DITLFF PONTON BOAT

SEAL & SIGNATURE

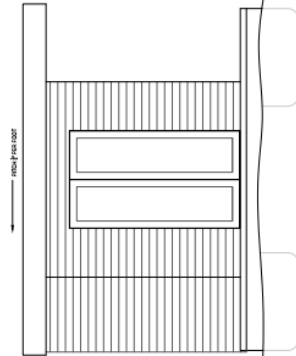
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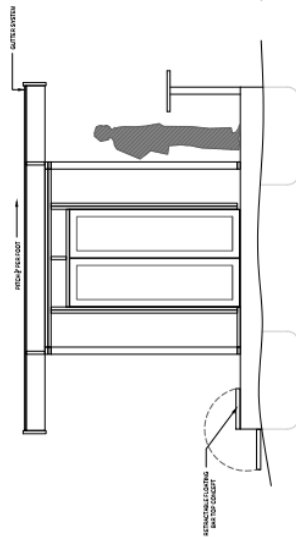
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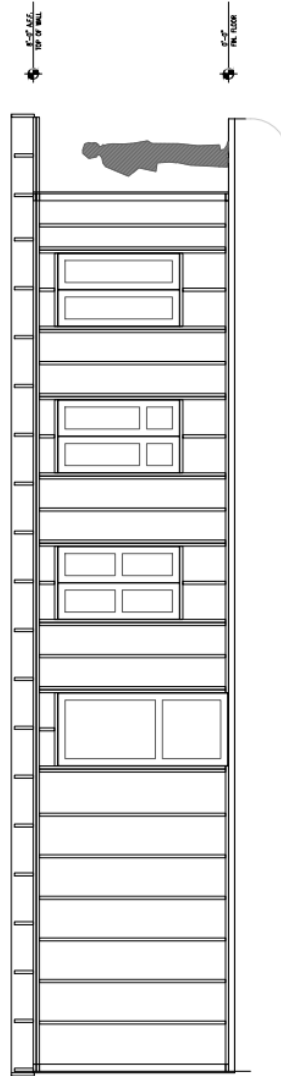
4 BACK VIEW @ CONCEPT BOAT
Scale: 1/2"=1'-0"



5 FRONT VIEW @ CONCEPT BOAT
Scale: 1/2" = 1'-0"

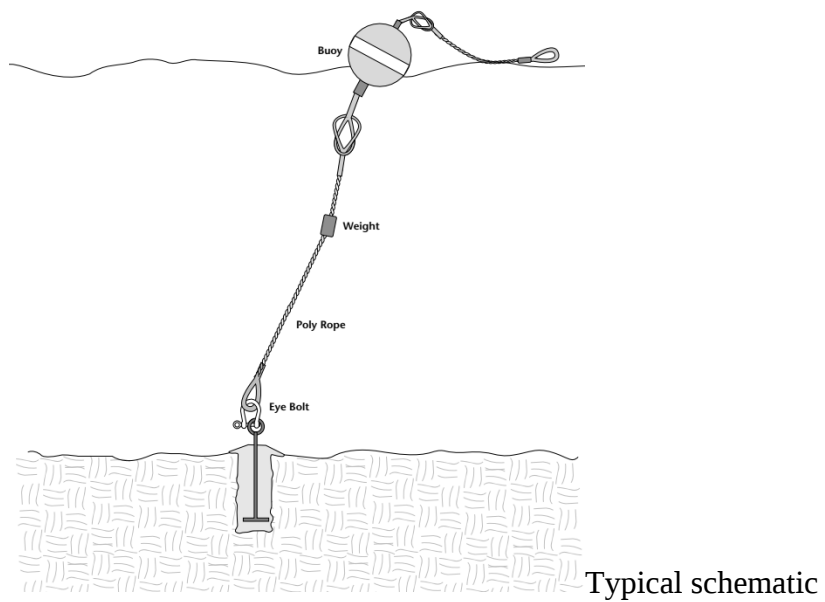
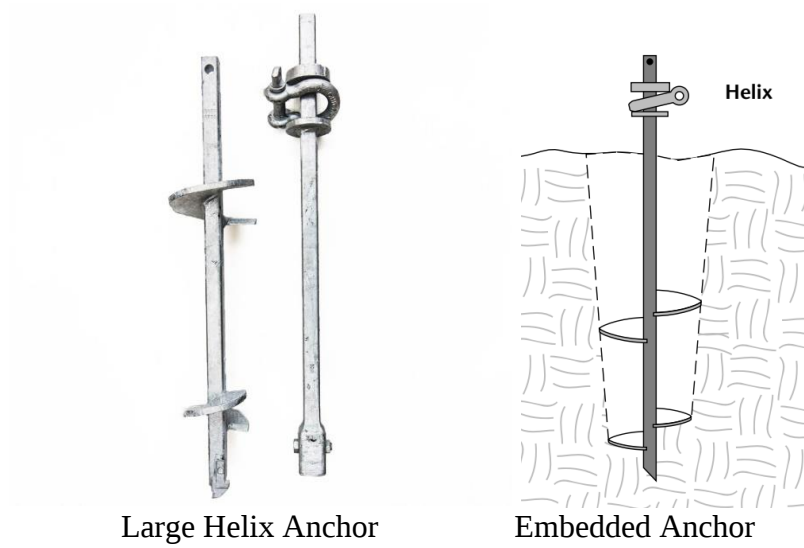


6 INTERIOR SECTION @ CONCEPT BOAT



3 INTERIOR SECTION @ CONCEPT BOAT

Scale: 1/2"=1'-0"



5.03 Project Workplan

- Divers Install Helix Anchors and Tackle
- Vessel towed to site attached to mooring anchors

6.0 Environmental Setting and Probable Project Impacts

6.01 Climate and Weather

Prevailing Winds

The Virgin Islands lie in the "Easterlies" or "Trade Winds" which traverse the southern part of the "Bermuda High" pressure area, thus the predominant winds are usually from the east-northeast and east (IRF, 1977). These trade winds vary seasonally and are broadly divided into 4 seasonal modes: 1) December to February; 2) March to May; 3) June to August; and 4) September to November. Below are the characteristics of these modes as taken from Marine Environments of the Virgin Islands Technical Supplement No. 1 (IRF, 1977).

December - February

During the winter the trade winds reach a maximum and blow with great regularity from the east-northeast. Wind speeds range from eleven to twenty-one knots about sixty percent of the time in January. This is a period when the Bermuda High is intensified with only nominal compensation pressure changes in the Equatorial Trough. The trade winds during this period are interrupted by "Northerners" or "Christmas Winds" which blow more than twenty knots from a northerly direction in gusts from one to three days. Such outbreaks average about thirty each year. They are created by strengthening of high-pressure cells over the North American continent, which, in turn, allow weak cold fronts to move southeastward over the entire Caribbean region. These storms are accompanied by intermittent rains, clouds and low visibility.

March - May

During the spring, the trade winds are reduced in speed and blow mainly from the east. Winds exceed twenty knots only thirteen percent of the time in April. The change in speed and direction is the result of a decrease of the Equatorial Trough.

June - August

Trade winds reach a secondary maximum during this period and blow predominantly from the east to east-southeast. Speeds exceed twenty knots twenty-three percent of the time during July. The trend for increasing winds results from the strengthening of the Bermuda High and a concurrent lowering of the pressure in the Equatorial Trough. Trade winds during this period are interrupted by occasional hurricanes.

September - November

During the fall, winds blow mainly from the east or southeast and speeds reach an annual minimum. Only seven percent of the winds exceed twenty knots in October. The low

wind speeds result from a decrease in the Equatorial Trough. During this period, especially during late August through mid-October, the normal trade wind regime is often broken down by easterly waves, tropical storms and hurricanes.

Storm and Hurricanes

There are numerous disturbances during the year, especially squalls and thunderstorms. These occur most frequently during the summer, lasting only a few hours and causing no pronounced change in the trade winds.

A tropical cyclone whose winds exceed 74 miles per hour is termed a hurricane in the northern hemisphere, and significantly affects the area. These hurricanes occur most frequently between August and mid-October with their peak activity occurring in September. The annual probability of a cyclone used to be one in sixteen years (Bowden, 1974). However, the Virgin Islands were hit with two Category V hurricanes within a two-week period in 2017 and a category 1 hurricane in 2019.

Return Period, years	Wind Speed, kt			Hurricane Category
	Best-fit	95% non-exc.	5% non-exc.	Saffir- Simpson
5	95.68	101.27	90.09	3
10	117.20	124.22	110.19	4
25	135.41	144.88	125.94	5
50	146.30	157.49	135.12	5
100	155.81	168.57	143.05	5

Table 6.01.1 Return frequency of storms

Climate

The average annual rainfall on St. Thomas is approximately 45 inches, ranging from 35 inches toward the eastern end of the islands to more than 55 inches at the higher elevation to the west. Rainfall usually occurs in brief, intense showers of less than a few tenths of an inch and major rainfall events are associated with weather systems (USGS 1998). The Virgin Islands have no sharply defined wet season. The wettest period generally is from September to November, and the driest period is from January to June (USGS 1998).

The difference between the mean temperatures of the coolest and warmest month is only

5 to 7 degrees F. The highest temperatures August or September and the lowest are in January or February. The highest average daytime temperature in the warmest months is about 88 degrees F, and in the coolest months is in the low 80's. Nighttime lows are usually in the mid 70's during the warmer months and in the high 60's during the cooler months (USGS 1998). In general, air temperature in the Virgin Islands ranges between 77 degrees and 85 degrees.

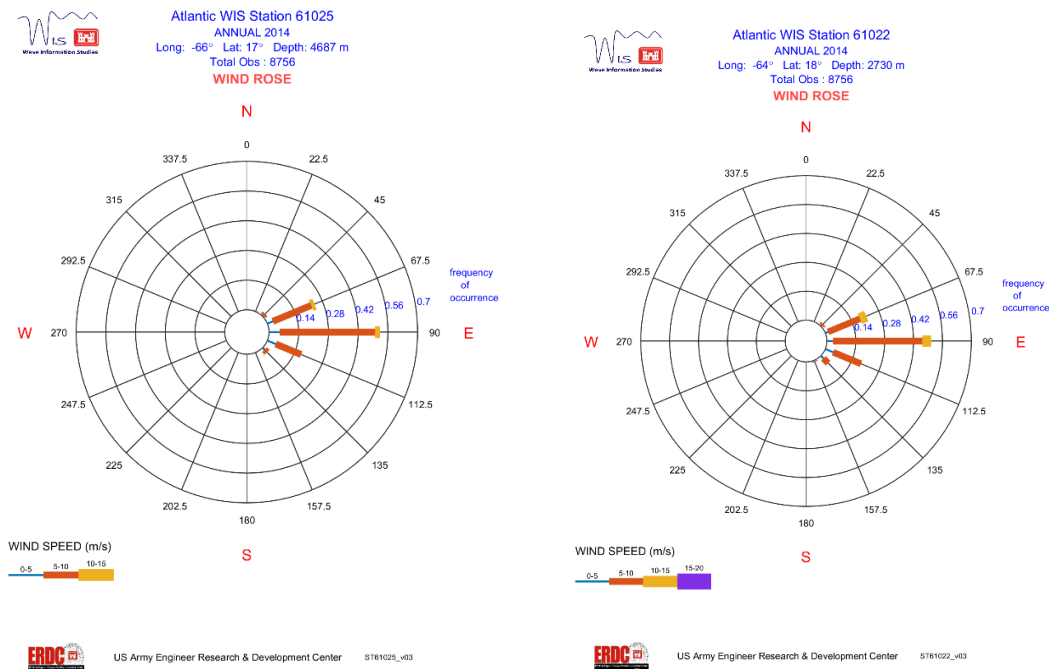
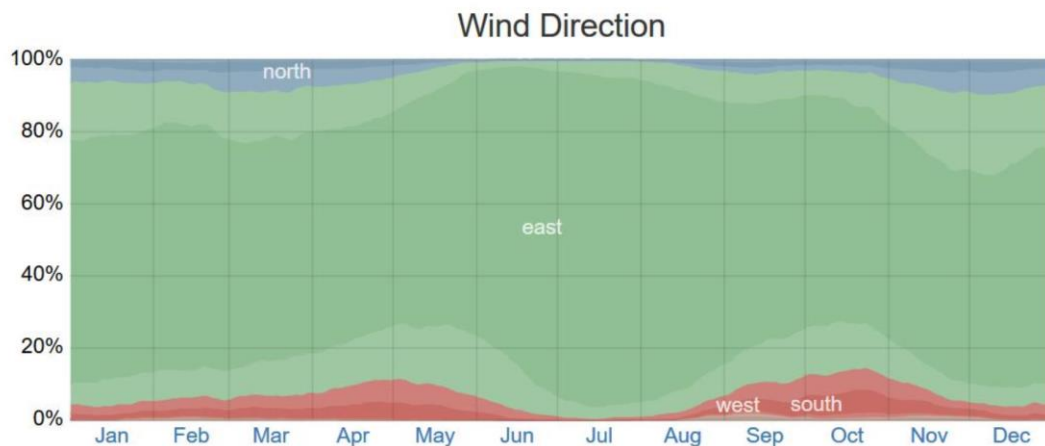


Figure 6.01.2 Wind Roses from the USACE showing the predominant easterly trade winds from the two closest buoys.



The percentage of hours in which the mean wind direction is from each of the four cardinal wind directions (north, east, south, and west), excluding hours in which the mean wind speed is less than 1 mph. The lightly tinted areas at the boundaries are the percentage of hours spent in the implied intermediate directions (northeast, southeast, southwest, and northwest).

Figure 6.01.3 Wind averages (<https://weatherspark.com/y/28234/Average-Weather-in-Charlotte-Amalie-U.S.-Virgin-Islands>)

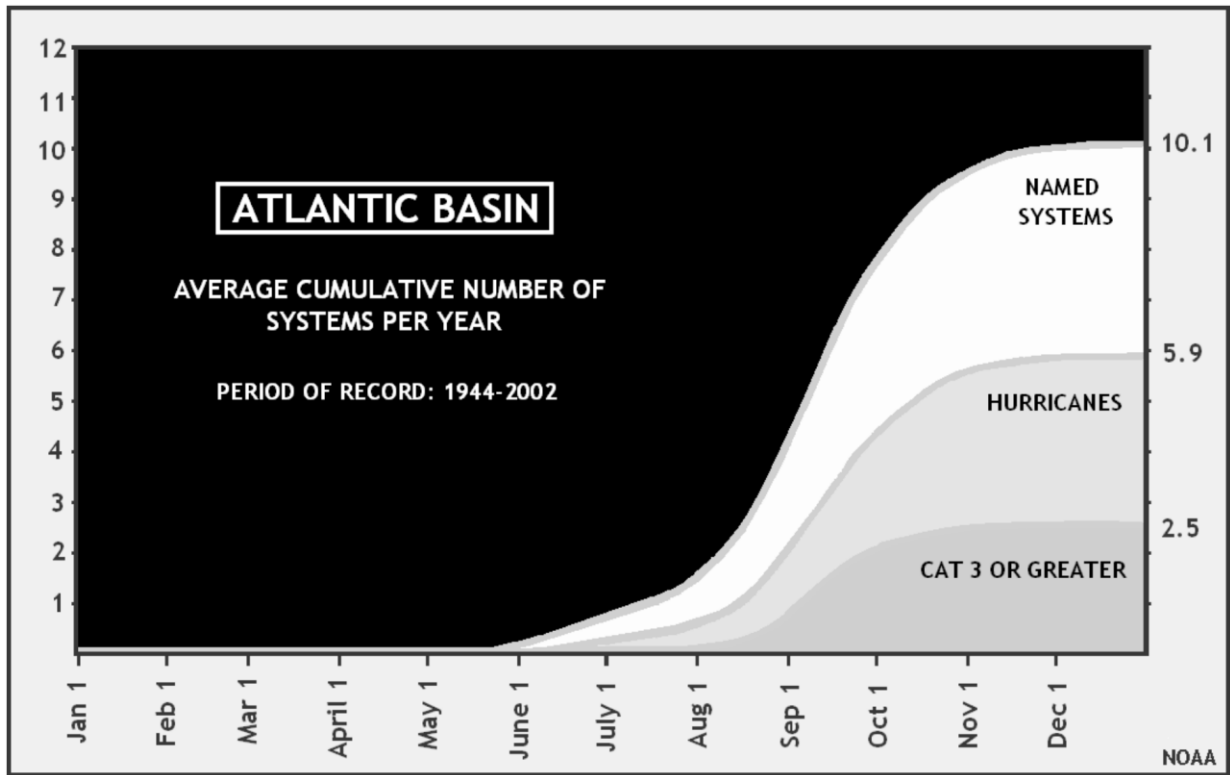


Figure 6.01.4 Tropical Cyclone Frequencies in the Atlantic (National Weather Service)

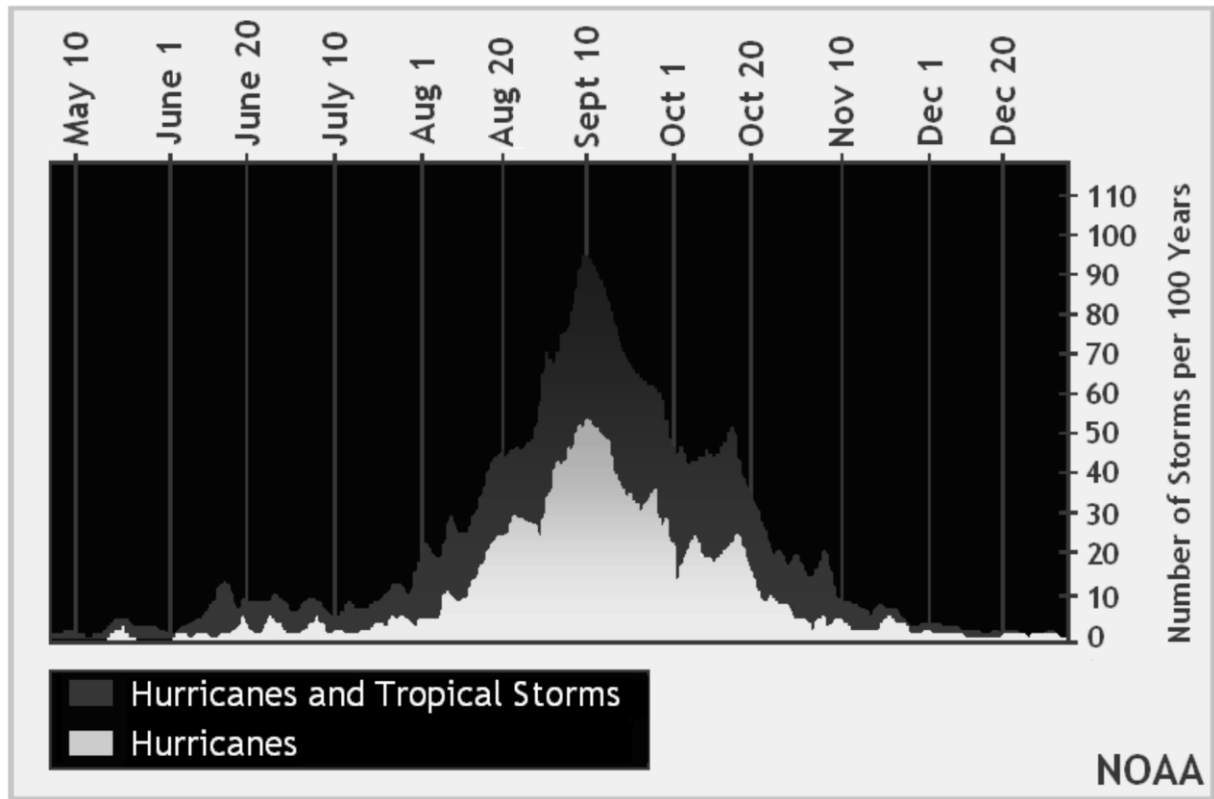
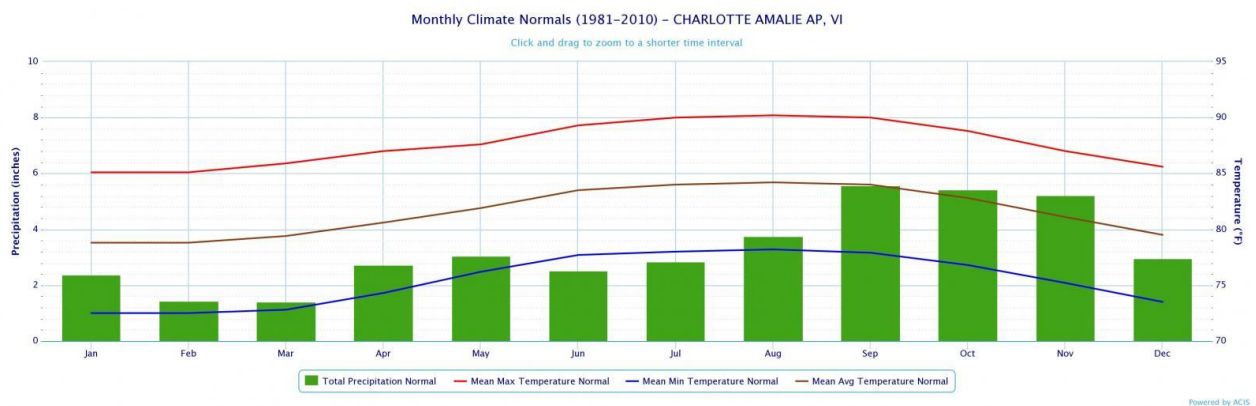


Figure 6.01.5 Tropical Storm and Hurricane Occurrences in the Atlantic (National Weather Service)



6.01.6 Climate Normal, National Weather Service
(http://www.weather.gov/sju/climo_pr_usvi_normals)

Impact on Project

Marine weather and seas are unpredictable. The applicant will remove the vessel from the site to a safe harbor in the event of inclement weather or seas.

6.02 Landforms, Geology, Soils, and Historic Use

GEOLOGY OF ST. THOMAS

The Virgin Islands are near the northeastern corner of the present Caribbean Plate, a relatively small trapezoidal-shaped plate that is moving eastward relative to the North and South American continents carried on the American plate. The arc of the Lesser Antilles is an active volcanic arc above a subduction zone in which the Atlantic oceanic crust of the American Plate is carried downward under the Caribbean Plate. The closest volcano to the Virgin Islands that is still active is Saba, about 160 km. to the east.

St. Thomas is composed of stratified volcanic and volcanoclastic rocks with minor limestone of the Early Cretaceous (Albain) to possibly the late Cretaceous Age (Donnelly 1966). These rocks are granitic composition, some of which may be as young as Tertiary (Kesler and Sutter, 1979). The oldest rocks of St. Thomas are submarine lavas (keratophyre and spilite), beds of volcanic debris and chert. Associated intrusive rocks of the Water Island Formation is overlain by andesitic volcanic and volcanoclastic rocks of the Louisenhoj Formation which underlies the island of St. Thomas to the east and much of the northwestern portion of St. John. Donnelly (1966) suggested that the Louisenhoj Formation was deposited unconformably on the Water Island Formation after a period of emergence, tilting and erosion, on the slopes and environs of a subaerial volcanic island located roughly between St. Thomas and St. John, an area now occupied by Pillsbury Sound. The youngest layered deposits on St. Thomas are volcanoclastic rocks of the Tutu Formation. Fossils contained in the Tutu Formation suggest that those deposits are of the Early Cretaceous (Albain) Age (Donnelly et. al. 1971). It appears that all of the volcanoclastic rocks of St. Thomas were deposited in a relatively short period of time spanning 10 to 15 million years approximately 100 million years ago (D. Rankin 1988).

GEOLOGY OF LINDBERGH BAY

The project site is in the center of Lindbergh Bay in an area of unconsolidated sand. The project is adjacent to a historic dredge hole.

HISTORIC USE

Lindbergh Bay has been impacted by anthropogenic activities including the mining of material in the northern part of the bay in the 1960's necessary for the production of fill material needed for construction projects such as the expansion of the airport. As a result, sloughing of the sand into the created dredge hole and disruptions of normal wave energy reaching the shoreline have caused the erosion of Emerald Beach, the bay's main beach.

ADVERSE SITE CONDITIONS

Lindbergh Bay is a relatively protected site. The angle of the deep embayment, and presence of Water Island to the east provides wave protection from sea except for those

coming from 165° - 230°. The site will be impacted by wave which are attenuated into the bay.

The mooring site is within flood zone X where 100 year coastal flooding is not expected as shown on FIRM map 25 of 94.

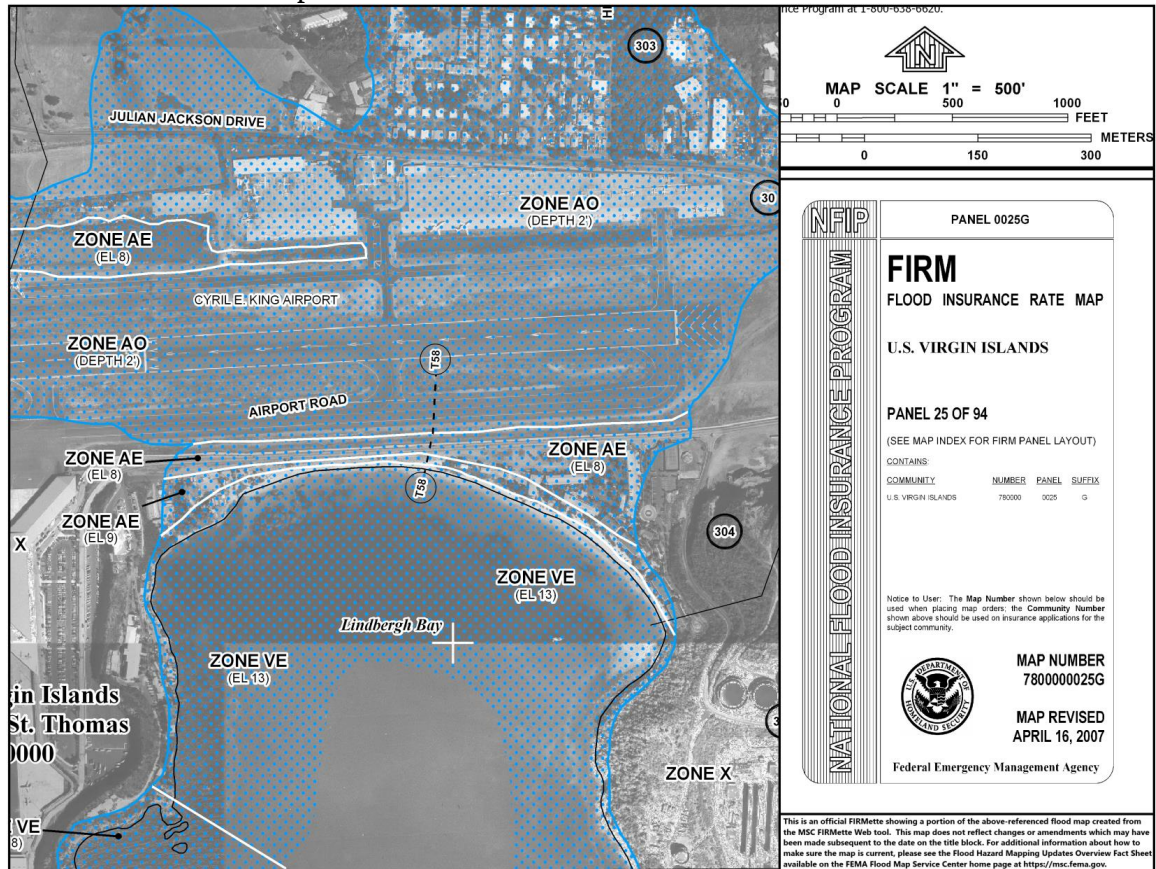


Figure 6.02.1. FEMA FIRM Map Panels 25 of 94.

The U.S. Virgin Islands lie in one of the most earthquake prone areas of the world, and are susceptible to ground shaking, earthquake-induced ground failures, surface fault ruptures and tsunamis (tidal waves) (Hays, 1984). The activity is mostly associated with large-scale tectonic activity or faulting, originating in the Anegada Trough to the northeast of the islands. The trough and its related scarp apparently were thrown up by block faulting during the late Pliocene or early Pleistocene. It is oriented generally northeast to southwest, separating St. Croix from Puerto Rico and the other Virgin Islands. Based on shallow focus earthquakes, the Anegada Fault Trough is estimated to be more than 400 miles in length. There are indications that strike slip movement is occurring, with St. Croix shifting northeast relative to Puerto Rico (Puerto Rico Water Authority 1970). The year 2021 marks the 154th anniversary of the last major earthquake in the islands. This quake, which occurred on November 18, 1867 had an identified intensity of VIII on the Modified Mercalli Scale. Earthquakes of this magnitude have generally been associated with epicentral ground accelerations of between 0.05 and 0.35 gravities. Since the 1868 quake, there has been continuous low

intensity activity, all below 6.5 Richter. Thousands of tiny earthquakes are encountered every year on the island. Earthquakes can sometimes result in tsunamis and if one were to occur it is probable that an advanced warning would be received. The vessel would be taken off the mooring and taken offshore where the wave or waves could safely pass beneath.

IMPACT OF PROJECT

The project will be installing 4 helix type anchors to hold the vessel and will be placing 10 single anchor moorings. The project will have negligible impact on the seafloor. Anchors could be later removed and leave no trace of having ever been placed.

6.03 Drainage, Flooding, and Erosion Control

6.03a Impacts on Terrestrial and Shoreline Erosion

The proposed floating restaurant and associated moorings are located far enough offshore that they will have no impact on either terrestrial or shoreline erosion.

6.03b Relationship of the Project to the Coastal Flood Plain

The mooring site is within flood zone X where 100-year coastal flooding is not expected as shown on FIRM map 25 of 94 (Figure 6.02.1).

6.04 Freshwater Resources

The floating restaurant and its associated moorings will have no impact on freshwater resources due to their location in the marine environment.

6.05 Oceanography

6.05a Seabed Alteration

The project involves the installation of 4 helix type anchors for the anchoring of the vessel and 10 helix anchors for moorings. The helix anchors and mooring tackle will be installed by divers.

Lindbergh Bay can be subdivided into two distinct areas: the northern portion of the bay that has been impacted by dredging several decades ago and the southern portion which has been spared from anthropogenic activities and still reflects natural grades. The northern portion includes a 33-acre borrow pit of circular shape which is approximately 1,000 feet in diameter with depths up to 38 feet MLLW in some areas (the “Lindbergh Bay Hole”). Though no bathymetric data were found for pre-dredging period, it is safe to assume that historic grades in this part of the bay were probably shallow and exhibiting depths between 5 to 20 feet MLLW (beach area to mid bay). To the south, the undisturbed portion of the bay steadily slopes south towards the open sea with depths ranging from 20 to 35 feet MLLW.

6.05b Tides and Currents

The Virgin Islands coastal areas are not subject to significant tidal ranges or tidal currents. Due to the small size of the cay, the sea flows around the island causing an average tidal height of only a few inches and maximum change of only a little over a foot. Only very narrow intertidal zones are found because of this lack of tidal amplitude and the steepness of the island rising out of the sea. The tides at the proposed barge site are primarily semi-diurnal in nature, with two cycles of high and two of low water every 24 hours. The second cycle is often indistinguishable. The mean tides range from 0.8f. to 1.0 ft and the spring tidal ranges reach up to 1.3ft (IRF 1977). The Charlotte Amalie Station has been recording water levels since 1975. The high tide recorded on September 18, 1989 (Hurricane Hugo) was +3.35ft, and in 1995 during Hurricane Marilyn the Charlotte Amalie tide station recorded the highest tide height 3.98ft above Mean Lower Low Water (MLLW). The lowest tide recorded was on February 6, 1985 and was -1.44ft. The tidal ranges of the Charlotte Amalie station are as follows:

Mean Higher High Water	1.09ft
Mean High Water	0.94ft
Mean Tide Level	0.54ft
Mean Sea Level	0.52ft
Mean Low Water	0.13ft
Mean Lower Low Water	0.0ft

Figure 6.05.1. Tidal data from the Charlotte Amalie Tidal Station (NOAA Buoys)

The surface currents throughout the Caribbean are driven by the North Equatorial Current that runs through the islands west-northwest and then joins the Gulf. These currents change very little from season to season with the currents coming more from the south during the summer months. Because of the shallowness of the Caribbean basin of less than 1000m, mainly surface water from the Atlantic flows through the islands. The westerly drift of the Caribbean Current sweeps into Pillsbury Sound from the Southeast, seeking a way North through the barrier set up by the Cays to discharge along the North Shore of St. Thomas and out into the Atlantic. Currents flow into the east Gregory Channel and then through West Gregory Channel past Lindbergh Bay.

6.05c Waves

The deep-water waves at the barge site are primarily driven by the northeast trade. The deep water waves off of St. Thomas are primarily driven by the northeast trade winds which blow most of the year. Waves average from 1 to 3 ft from the east, 42% of the time throughout the year (IRF, 1977). For 0.6% of the time, easterly waves reach 12 ft. in height. The southeasterly swell with waves one to twelve feet high become significant in late summer and fall when the trade winds blow from the east or when tropical storms and hurricanes pass the islands at a distance to the south. During the winter months, long length, long period northern swells develop to a height of 1 to 5 feet.

The USACE Wave Hindcast Models for Stations 61022 and 61025, the two stations which have direct line site to Lindbergh Bay area show that most waves are from easterly directions and are 1-2ft.

Below are the wave heights used in the simulation prepared by Moffat & Nichols from there analysis of a dredging project for Gregory Channel which include the Lindbergh Bay location proposed for the vessel. As shown on the map below Lindbergh Bay is Observation Point No. 1.

Table 2-3: Tabular Histogram of Wave Heights for Observations Point Locations

Observation Point No.	Significant Wave Height (feet), by percent exceedance					
	75%	50%	25%	10%	5%	1%
1	0.15	0.24	0.37	0.53	0.66	1.00
2	0.28	0.44	0.70	1.04	1.30	2.00
3	0.29	0.42	0.65	0.99	1.31	2.16
4	0.15	0.22	0.36	0.62	0.86	1.43
5	0.08	0.13	0.22	0.35	0.48	0.90
6	0.06	0.09	0.15	0.25	0.36	0.72
7	0.05	0.06	0.09	0.13	0.18	0.43
8	0.06	0.08	0.10	0.13	0.16	0.38
9	0.15	0.21	0.27	0.32	0.34	0.42
10	0.21	0.29	0.40	0.48	0.54	0.65
11	0.25	0.38	0.56	0.77	0.91	1.24



Figure 2-2: Observation Point Locations for Wave Conditions

6.05d Marine Water Quality

Waters in Lindbergh Bay are designated as Class B, and the best usage of the water is listed as the propagation of desirable species of marine life and for primary contact recreation (swimming, water skiing, etc.). The quality criteria include, dissolved oxygen not less than 5.5mg/l from other than natural conditions. The pH must not vary by more than 0.1 pH unit from ambient; at no time, shall the pH be less than 7.0 or greater than 8.3. Bacteria (fecal coliform) cannot exceed 70 per ml, and turbidity should not exceed a maximum nephelometric turbidity unit of three (3) NTU.

A baseline study was conducted as part of a dredge disposal project to refill the Lindbergh Bay hole, turbidities in Lindbergh Bay ranged between 1.2NTU and 0.47 NTU.

IMPACT OF PROPOSED PROJECT

Installation of the anchors for the vessel and the boat moorings will have a negligible short-term impact due to divers disturbing the seafloor. Sand will be suspended and will quickly settle.

The vessel will have holding tanks for all wastewater. No wastewater will be discharged from the vessel.

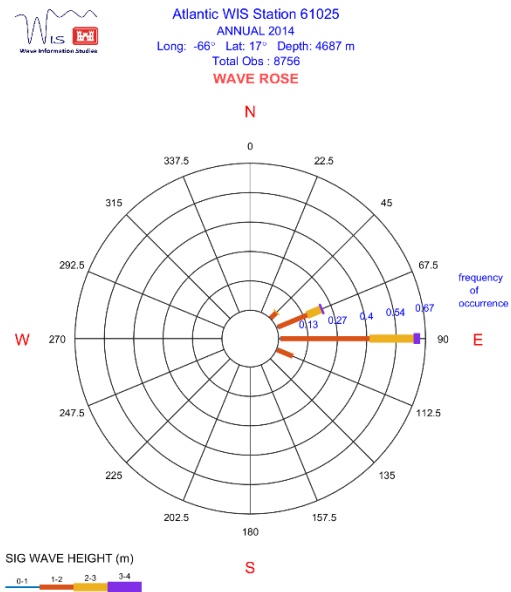
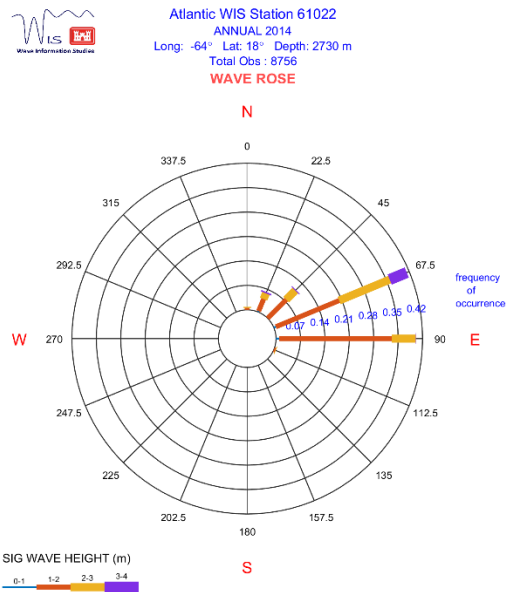
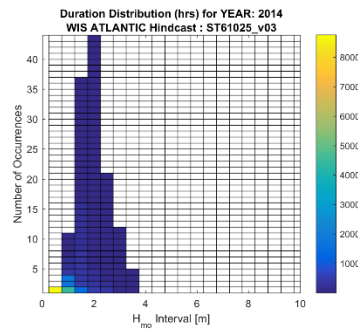
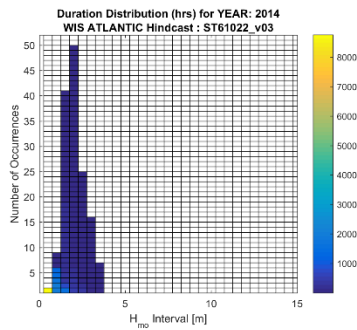
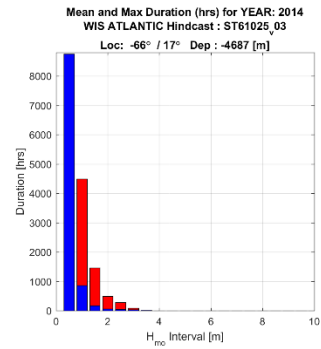
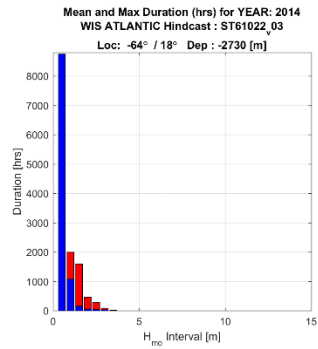
The vessel be powered primarily through solar power. It will only use propane for cooking. There will be limited potential for hydrocarbon leaks from the vessel engines.

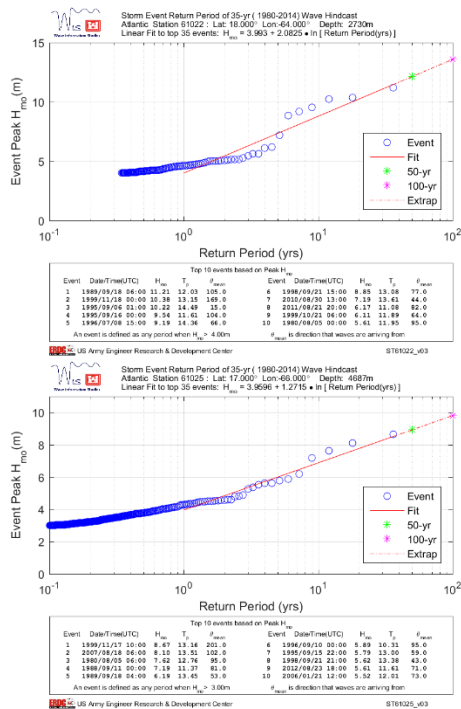
The vessel will have a small reverse osmosis system and will discharge the associated brine. The discharge of 1500 gpd (1.04gpm at 54ppt) will diffuse rapidly and will have a negligible impact on the marine environment.

The applicant is aware that sea conditions are variable and can be unpredictable, when inclement weather is excepted the vessel will be removed from the bay to a safe harbor.



Figure 6.05.2 Wave Hindcast Stations USACE Wave Hindcast site, locations of 61022 and 61025 (<http://wis.usace.army.mil/hindcasts.html?dmn=atlantic>).





6.05.1 Wave Information for Station 61022 and 61025

(<http://wis.usace.army.mil/hindcasts.html?dmn=atlantic>)

6.06 Marine Resources and Habitat Assessment

LINDBERGH BAY

NOAA's NOS Benthic Habitat Map, Tile # 6 shows the shoreline area as reef colonized bed rock, with varying densities of seagrass throughout the bay. The dredged hole is depicted on the map and is shown as an uncolonized sand bottom. The NOS map depicts the area has having been dredged. Surveys confirm that the shorelines are reef colonized bedrock, and seagrass is scattered throughout the bay. There are however scattered remnant patch reefs to the south of the hole and some coral and rubble scattered down the slope into the hole to the south. The coral and coral colonized rubble extends closer to the hole than depicted on the western side of the hole, and seagrasses occur to the north and along the northern fringes of the hole.

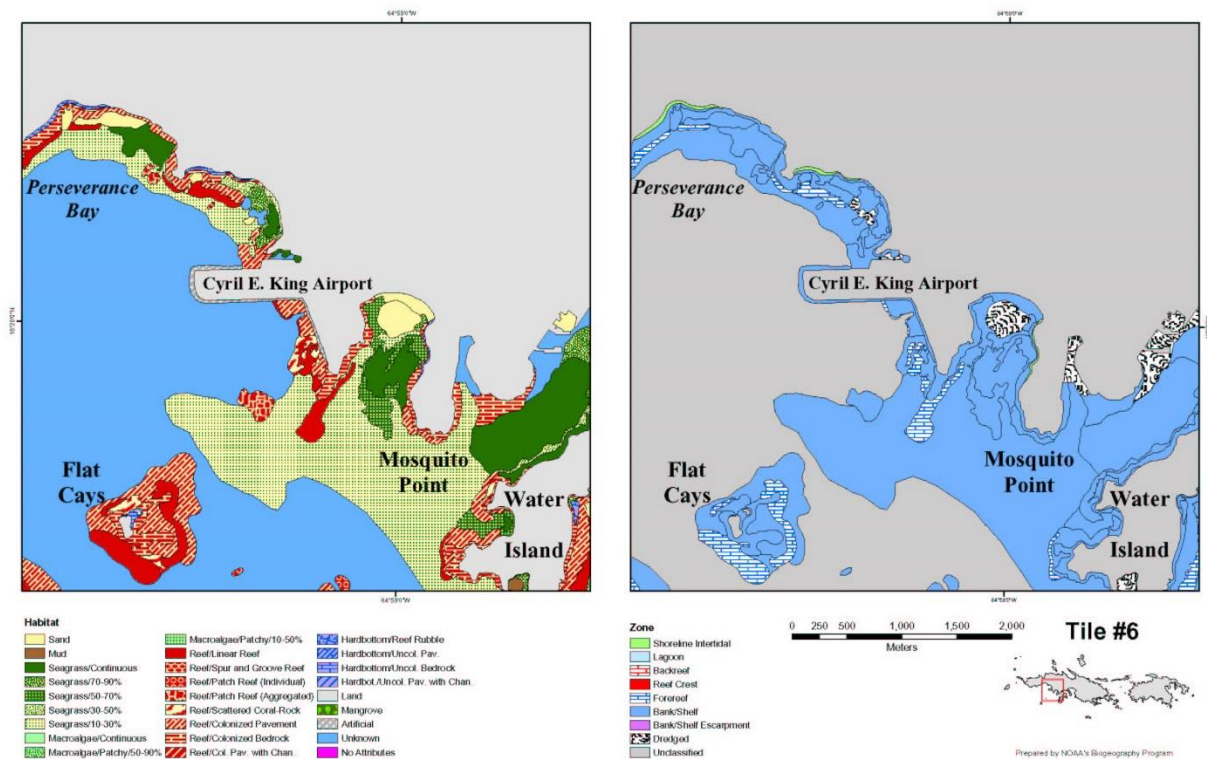


Figure 6.06.2. NOAA Benthic Habitat Map Tile #6.

The Lindbergh Bay Hole is located in the middle of the inner bay. To the north of the dredge hole is the sloping sandy beach which grades into seagrass beds composed of *Thalassia testudinum*, and *Syringodium filiforme* and mixed with *Halophila stipulacea*. The depth of the seagrass beds within the hole influences the density and diversity of seagrass. The seagrass which does extend into the hole becomes less dense with depth. *Halophila stipulacea* is the most abundant colonizer in the hole and extends down to depths of 36-37ft. Some *Thalassia* shoots have come up through the *H. stipulacea* down to depths of 26ft. but these represent less than 2% of the total bottom coverage. At 37-38ft there is primarily algal colonization with an occasional runner of *H. stipulacea*. *Dictyota*, and *Halimeda* and *Caulerpa* are the most abundant algal species and combine represented approximately 30% bottom coverage. Only a very small amount of *Halophila decipiens*, the native *Halophila* species was found in a few small patches. Several loose corals which were still viable were found in the hole which had apparently been washed into the storm by the hurricane. One was removed and stabilized in the shallows.

The algae *Halimeda*, *Avrianvillea*, *Acanthophora spicifera*, *Neomeris annulata*, *Padina*, *Udota flabellum*, *Penicillus capitatus*, *Caulerpa*, *Codium* and *Laurencia* are present in the shallower grassbeds. Queen conch (*Strombus gigas*), milk conch *Strombus costatus*, fighting conch (*Strombus alatus*), roostertail conch (*Strombus gallus*), sea cucumbers (*Holothuria arenicola*) and urchins (*Tripneustes ventricosus* and *Lytechinus variegates*) were primarily seen in the shallower seagrass beds but several fighting conch were found

in the hole as well as several large hermit crabs. There are numerous burrowing shrimp mounds (*Callianassa sp.*) throughout the side slopes and floor of the hole.

Mixed *H. stipulacea* and seagrass beds are present on the edges of the hole around the northern and eastern sides and around portions of the western and southern sides. Within the southern portion of the dredged hole scattered coral rock rubble was noted and as the water depth decreased on the southern side of the hole some scattered corals (primarily *Siderastrea siderea*) were noted, nearing the top edge of the hole and on the sand plain beyond to the south and the west there are small scattered coral outcroppings and patch reefs which are colonized by *Siderastrea siderea*, *Diploria strigosa*, *Diploria labyrinthiformis*, and *Orbicella annularis*.

Along the western fringe of the hole, the dredging cut into an area which was a mixture of coral colonized hardbottom (to the south) and seagrass beds (to the north).

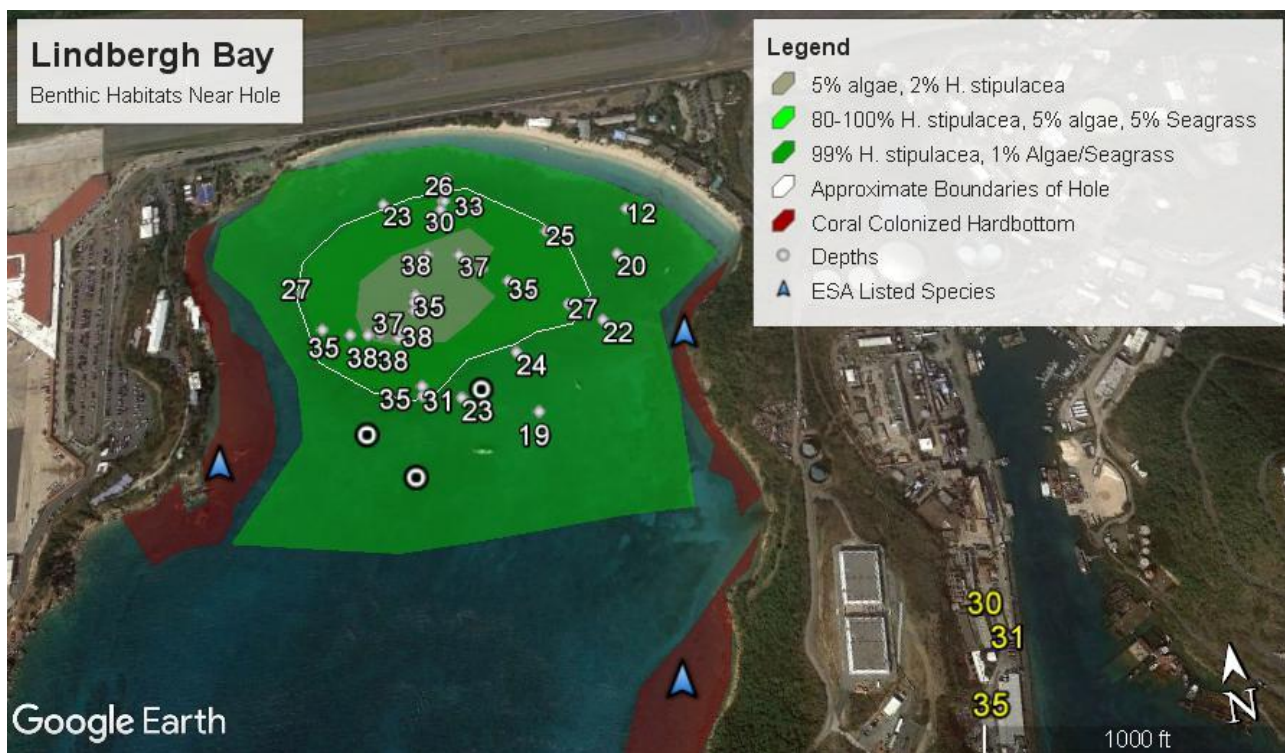


Figure 6.06.3 Benthic Habitats in Lindbergh Bay

The following table documents the species abundance

Seagrass	Thalassia	Syringodium	Halodule	<i>H.stipulacea</i>
Depth				
-24 to -25	<5%	1%	1%	95%
-25 to -26	<5%	2%	0%	95%
-26 to -27	<1%	0%	0%	95%
-27 to -28	<0.1%	0%	0%	95%
-28 to -29	<0.1%	0%	0%	95%

-29 to -30	<0.1%	0%	0%	90%
-30 to -32	<0.1%	0%	0%	90%
-32 to -35	0%	0%	0%	90%
-35 to -36	0%	0%	0%	40%
-36 to -38	0%	0%	0%	2%

A detailed survey was made along the eastern shoreline to the point in 2009, and only one acroporid coral recruit was found, in 2018 no *Acropora* was found. The detailed survey on the western shoreline in 2009 found *Acropora palmata* colonies on the rocky outcropping which used to have a bar and restaurant on it. The doorway is cut through the rock and a large concrete slab and other related debris is scattered around the rocky point. A single colony of *Acropora cervicornis* was noted to the southeast on the rocky headland. In 2018 several *Acropora* colonies were noted to have suffered damage from the 2017 hurricanes. These corals were still viable in 2020.



Halophila stipulacea has become the most abundant colonizer in the hole, and the bay. It is found in the hole down to 36ft. and even a few runners were found at 38ft. The algae is serving to improve water quality by stabilizing sediments.



Thalassia is now found in very low abundances down to 26ft amid the *H. stipulacea*. An old cable with a repeater was found in the hole.



Seagrass represents approximately 5% of the total bottom coverage and as you reach the top of the hole there are small areas that are completely colonized by sparse *Thalassia* these have been avoided by the moorings and anchors.



Between 36-38ft there is primarily algae colonization. There were a number of tree limbs and ropes.



The deepest areas have some scattered cobbles and have drift algae, and very limited *Halimeda* colonization.

Shorelines of Bay



And at 23ft. a *Siderastrea siderea* appears amid the algae at the upper edge of the eastern side of the hole and a large boulder on the upper slope.



West of the hole below the Carib Beach Hotel there is a rock pavement which is colonized by corals including ESA listed *Orbicella*. On the rock point to the southwest there are *Orbicella*, *Dendrogya* and *Acropora palmata*.



The colonies of these species were found in 2018, but most were damaged. These corals

were still healthy in 2021.



To the east there is a hard bottom along the shoreline that is coral colonized and *Orbicella* and *Dendrogyra* are present. A single *Acropora* recruit was found along the eastern hardbottom in 2009 but none were noted in 2018. As part of the monitoring for the construction of the LPG plant for WAPA quadrats were monitored in this area for more than a year. Corals showed no degradation during that time. Numerous *Nassua* groupers were noted in this area. No *Acropora palmata* were noted along the eastern shore in 2020 or 2021.

Anchoring and Mooring Location South of Dredged Hole

The project area is primarily colonized by *Halophila stipulacea* the invasive seagrass. Amid the *H. stipulacea* there are scattered areas of uncolonized sand.



Within the sand patches there are *Udotea flabellum*, *Penicillus capitatus*, *Halimeda opuntia* and *H. monile*. There are small widely scattered small patches of sparse *Thalassia testudinum* and *Syringodium filiforme* that are intermixed with *Penicillus capitatus*, *Udotea flabellum*, and *Halimeda* spp.





Queen conch (*Strombus gigas*), West Indian Fighting Conch (*Strombus pugilis*) and West Indian Sea Star (*Oreaster reticulatus*) were noted within the proposed mooring area.

Benthic composition	
Bottom Type	Soft (sand)
Seagrasses	Invasive Halophila grass (<i>Halophila stipulacea</i>)
	Turtle grass (<i>Thalassia testudinum</i>)
	Eel grass (<i>Syringodium filiforme</i>)
Algae	<i>Halimeda incrassada</i>
	<i>Halimeda opuntia</i>
	<i>Halimeda monile</i>
	<i>Udotea flabellum</i>
	<i>Penicillia capitatus</i>
Molluscs	Queen Conch (<i>Strombus gigas</i>)
	West Indian Fighting conch (<i>Strombus pugilis</i>)
Echinoderms	West Indian sea star (<i>Oreaster reticulatus</i>)

Impact of Barge and Moorings

A minimal colonized area of sand and *H. stipulacea* has been selected for the barge location and its moorings. The bottom disturbance should be minimal during the placement of the 4 helix anchors for the barge and there will be no shading. The 10 vessel mooring anchor locations have also been placed in footprints devoid of colonization and in areas that only have *H. stipulacea* to limit any possible shading impacts.

The barge will have no wastewater discharges and will utilize holding tanks for septic and gray-water wastes. The floating restaurant will have a 1000gpd Reverse Osmosis plant which will discharge approximately 1500 gallons of brine a day. The 1.04gpm discharge of 54ppt salinity brine should have no impact on marine water quality or on the environment.

Signage will be posted on the barge stressing the importance of watching out for marine mammals and sea turtles while boating.

In the event of inclement weather, the barge will be taken off the moorings and transported to a safe harbor or out of the water.

The floating take-out restaurant should have minimal environmental impact due to its location, the mooring installations, and proposed holding tanks.

In order to ensure that no inadvertent impacts occur divers will sweep the area of the restaurant, moorings to collect any items or debris which may have fallen into the water on a weekly basis.

6.07 Terrestrial Resources

All project components are located offshore and therefore the project will have no direct impact on the terrestrial environment. There will be a shoreside prep kitchen and dishwashing station. This will be in an existing establishment and will have no impact.

6.08 Wetlands

The U.S. Army Corps of Engineers defines wetlands as "those areas that are periodically inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, bogs, marshes and similar areas." (U.S. Army Corps of Engineers, 1986).

The project is located offshore and will have no impact on any terrestrial wetlands.

6.09 Rare and Endangered Species

Three rare or endangered sea turtle species; hawksbill turtles (*Eretmochelys imbricata*) green turtles (*Chelonia mydas*) and leatherback turtles (*Ermochelys coriacea*) occur in Lindbergh Bay. NOAA's Vessel Strike Avoidance Measures and Reporting for Mariners will be implemented by all vessels associated with the floating take-out restaurant (Appendix II). The restaurant will only be open between the hours of 11am to 4:45pm and will not require significant lighting beyond that required for security and safety.

The marine habitats in Lindbergh Bay along the shoreline have coral resources including *Acropora palmata*, *A. cervicornis*, *Orbicella annularis*, *O. franksi* and *O. faveolata* as well as *Dendrogyra cylindrus* have all been seen along the shorelines. These are a significant distance from the floating take-out restaurant location.

The Nassau grouper (*Epinephelus striatus*) are frequently seen in the hardbottom habitats. Giant Manta Rays (*Manta birostris*) have been seen in Brewers bay in 2020 and could occur in Lindbergh Bay. The floating restaurant should have no impact on these species. Humpback whales (*Megaptera novaeangliae*), Scalloped Hammerhead sharks

(*Carcharhinus longimanus*), Oceanic Whitetip sharks (*Carcharhinus longimanus*) may occur offshore and would not be effected by the project.

Table 1. ESA Threatened and Endangered Species Potentially Occurring in the Greater Project Area

Scientific Name	Common Name	Status
<i>Acropora palmata</i>	Elkhorn coral	T
<i>Acropora cervicornis</i>	Staghorn coral	T
<i>Orbicella annularis</i>	Lobbed Star coral	T
<i>Orbicella faveolata</i>	Mountainous star coral	T
<i>Orbicella franksi</i>	Boulder star coral,	
<i>Dendrogyra cylindrus</i>	Pillar coral	T
<i>Mycetophyllia ferox</i>	Rough Cactus Corals	T
<i>Eretmochelys imbricata</i>	Hawksbill sea turtle	E
<i>Dermochelys coriacea</i>	Leatherback sea turtle	E
<i>Chelonia mydas</i>	Green sea turtle	T
<i>Caretta caretta</i>	Loggerhead sea turtle	T
<i>Trichechus manatus manatus</i>	West Indian manatee	E
<i>Megaptera novaeangliae</i>	Humpback whale	E/D ²
<i>Balaenoptera physalus</i>	Finback whale	E
<i>Epinephelus striatus</i>	Nassua grouper	T
<i>Manta birostris</i>	Giant Manta Ray	T
<i>Sphyma lewini</i>	Scalloped Hammerhead	T
<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark	T

West Indian manatee (*Trichechus manatus manatus*) has been seen in St. Croix in the last 5 years and could potentially appear in St. Thomas in the Lindbergh Bay area. The NOAA's Vessel Strike Avoidance Measures which are proposed should also serve to protect these species.

The floating take-out restaurant and 10 vessel moorings should not directly impact any endangered species. Anchoring will be discouraged and should not be necessary since there should be adequate moorings for the restaurant.

6.10 Air Quality

All of St. Thomas is designated Class II by the Environmental Protection Agency in compliance with National Ambient Air Quality Standards. In Class II air quality regions the following air pollutants are regulated; open burning, visible air contaminants, particulate matter emissions, volatile petroleum products, sulfur compounds, and internal combustion engine exhaust (Virgin Islands Code Rules and Regulations).

The restaurant will use solar power to the greatest extent possible and then propane for cooking. The restaurant will have a small 3500hp gasoline generator which will be used on very cloudy days when solar is not available. This will result in a negligible impact to air quality.

Vessels with combustion engines will provide support to the floating restaurant and the vessels visiting the floating take out restaurant will have combustion engines therefore there will a short term intermittent increase in exhaust associated with these vessels coming to and from the take-out restaurant.

7.00 Impacts on the Human Environment

7.01 Land and Water Use Plans

In the U.S. Virgin Islands offshore water are not zoned. The shorelines surrounding Lindbergh Bay, have hotels and other commercial uses and there is a small floating water park located inshore to the north of the proposed restaurant area.

7.02 Visual Impact

The viewscape includes hotels and the water park. The Cyril E. King airport lies just to the north. The bay already has a significant amount of boat traffic and the floating take-out restaurant and guest vessels visiting the restaurant will be in keeping with the existing marine landscape. The moorings will be limited to day use, and the restaurant will only be open during day light hours.

7.03 Impact on Public Services

7.03a Water

The barge will have a 1000gpd reverse osmosis plant to produce water needed during daytime operations. A shore based kitchen and dishwashing area will be used to support the operation.

7.03b Sewage Treatment and Disposal

The vessel will have a single toilet for the employees working on the barge. This will be a camp type toilet with a small holding tank. This will be emptied and cleaned on a daily basis. Minimal dishwashing will be done on site, primarily the washing of stainless steel cups. A 300 gallon graywater catchment will be used to collect the dish and hand washing water. The graywater catchment will be pumped out each day and emptied at shoreside facility.

7.03c Solid Waste Disposal

Solid waste from the barge will be collected daily by the support vessels and disposed of at the Bovoni landfill by a private hauler. The floating restaurant will utilize biodegradable Taco trays and stainless-steel reusable cups to minimize waste.

7.03d Roads, Traffic and Parking

The floating take-out restaurant is offshore in Lindbergh Bay and it will be servicing existing charter and personal boats. Employees for the restaurant will park in spaces provided at a marina or nearby and be carried out to the restaurant to work. The operation should have a negligible impact on local roads, traffic and parking.

7.03e Electricity

The barge will use solar power generation and will be open during daylight hours when solar collection is the greatest. There will be a battery collection system which will be able to supplement when solar power is limited. In the rare occasion of successive cloudy days, a 3500hp gasoline generator will be used to supply the necessary electrical components on the vessel.

7.03f Schools

The floating take-out restaurant will have no impact on schools. All employees will be drawn from the local work force and no new children will be matriculated into existing schools.

7.03g Fire and Police Protection

The floating restaurant should have no impact on fire or police protection. If an incident were to occur where local law enforcement is needed, either DPNR enforcement, or the U.S. Coast Guard would be contacted. The applicant's similar operation in St. John has had no security issues.

The floating restaurant will be equipped with firefighting equipment as required by the U.S. Coast Guard.

7.03h Health

The operation should not have an impact on local health care. All employees will be drawn from the local work force and no additional stress will be put on the existing system.

The floating restaurant will have general first aid equipment on board. In the event of an injury the person can be carried to St. Thomas on the support vessel.

7.04 Social Impacts

The floating take-out restaurant is expected to have positive impact for residents of the territory and tourists visiting St. Thomas. The local boating community lacks locations that boaters can easily access food while out. Currently vessels have to stop and pay dockage to access shoreside restaurants.

7.05 Economic Impact

The floating take-out restaurant is expected to have a positive impact on the Virgin Islands economy. The restaurant's business will generate tax revenue for the U.S. Virgin Islands in form of gross receipts and employment taxes. The restaurant will have 12 employees who work on the floating restaurant and up to five employees who will work on St. Thomas to support the operation. These jobs will be filled by residents of the U.S. Virgin Islands.

7.06 Impacts on Historical and Archeological Resources

The project involves the installation of 14 helix type in sand in Lindbergh Bay. No artifacts or debris was noted in the proposed locations. The installation of the anchors and the operation of the lounge will have no impact on archeological resources.

7.07 Recreational Use

The project is located in Lindbergh Bay off a popular local and tourist beach. The area in the bay in which the restaurant will be located is primarily only used for boating. Snorkeling, diving and swimming occur along the shorelines of the bay. There is an offshore water park located to the north of the proposed location in the bay. These activities will continue unimpeded.

7.08 Waste Disposal

The floating take-out restaurant will utilize biodegradable taco trays and reusable stainless-steel cups. Waste created during operations will be collected at the end of the day and taken on shore to be disposed of by a private hauler at the Bovoni landfill.

7.09 Accidental Spills

The vessel will primarily utilize solar power for operations. A small 3500hp gasoline generator will be utilized at times when solar is not available. Less than 10 gallons of gasoline will be kept on the vessel. The potential for spills will be low. Absorbent pads will be kept on the vessel in the event of a spill so that fuel may be cleaned up before it could get into the water.

7.10 Potential Adverse Effects Which Cannot Be Avoided

The project has been designed to avoid impact to resources by its location and minimizing impact during operations by utilizing solar and minimizing waste. Divers will survey the area on a weekly basis to ensure that garbage and dropped items are collected from both the restaurant footprint and mooring footprints. Impacts to the area will be minimal.

8.00 Mitigation Plans

The vessel and moorings will utilize helix anchors and floating lines to minimize benthic impacts. Divers will survey the area on a weekly basis to collect trash, debris or drop items from the seafloor.

9.00 Alternatives to Proposed Action

The project could not be done and there would be no change in use of the area and there would continue to be limited restaurant options for boaters to visit in St. Thomas.

The floating take-out restaurant could be located in a different location and as long as it was clear of coral and seagrass resources impacts could also be negligible. Location in areas with resources would result in direct impact to resources through placement of helix anchors and shadings.

The chosen location is one that is already being used for water related commercial use and will not result in a change in character of the area.

Different anchoring methods could be used that could have the potential to impact bottom resources due to dragging lines or anchors.

The restaurant could use all gas generation which would require additional fuel resources to be stored and would increase the potential impact in the event of a spill.

10.00 Relationship Between Short Term and Long Term Uses of Man's Environment

The application proposes the placement of a floating take-out restaurant in Lindbergh Bay. The area is already being used for marine related commercial activities and therefore will have no change of use of the area. If the operation ceases the helix anchors could be removed and there would be no long term impact from the operation. The project is in keeping with the goals and policies of the Coastal Zone Management.

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<http://wis.usace.army.mil/hindcasts.html?dmn=atlantic>

APPENDIX I

The background of the entire page is an underwater photograph of a coral reef. A large, branching, light-colored coral structure dominates the center-left, reaching towards the top. Below it and to the right are various other coral species, including some with feathery or finger-like projections. The water is a clear, pale blue, and sunlight filters down from the surface, creating a dappled light effect.

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BIOIMPACT, INC. QUALIFICATION STATEMENT

Bioimpact, Inc. is a Virgin Islands Corporation licensed to do business in the Virgin Islands Since 1986.

Bioimpact, Inc. is qualified to conduct and prepare both terrestrial and marine Environmental Assessment Report required by the Department of Planning and Natural Resources, Division of Coastal Zone Management, and the U.S. Army Corps of Engineers.

Amy Claire Dempsey, principal of **Bioimpact, Inc.** is certified in wetland delineation by the National Wetland Science Training Cooperative to establish wetland jurisdictional limits for the U.S. Army Corps of Engineers.

Bioimpact, Inc. is experienced in the creation and implementation of wetland mitigation programs.

Bioimpact, Inc. is experienced in developing and implementing marine water quality monitoring programs and long-term photographic monitoring of the benthic environment. Amy Claire Dempsey, principal of **Bioimpact, Inc.** is an EPA certified water sampler and analyst.

Bioimpact, Inc. has successfully designed and implemented large scale coral and seagrass transplant programs.

Bioimpact, Inc. is experienced in cable landfall studies and the establishment of routes for undersea cables and monitoring of cable installations to minimize impact.

Bioimpact, Inc. is experienced in endangered species surveys included the endangered coral, as well as terrestrial flora and fauna species and is experienced in preparing Biological Assessments for National Marine Fisheries and Fish and Wildlife Service.

Bioimpact, Inc. is experienced in the transplant and monitoring of Environmental Protection Act (ESA) listed coral species as authorized under “take permits” from National Marine Fisheries Service.

Bioimpact, Inc. is experienced in preparing Environmental Assessments for federal permitting and the issuance of Findings of No Significant Impact.

Bioimpact, Inc. is experienced in the preparations of Phase I Environmental Site Assessments as set forth in the ASTM Standard Practice Designation E 1527-13 and All Appropriate Inquires and Phase II Environmental Site Assessments as set for in ASTM E1903 – 11.

Bioimpact, Inc. is experience in the development and implementation of sampling plans to detect and delineation hazardous materials and petroleum products.

Bioimpact, Inc. is experience in conducting deep water ROV surveys up to 1000ft and has all the necessary equipment to undertake these studies.

Bioimpact, Inc. has conducted environmental studies in the U.S. Virgin Islands, Puerto Rico, British Virgin Islands, throughout the Caribbean and in the Florida Keys.

PARTIAL JOB LIST
UP-DATED March 2018

MONITORING PROGRAMS

- 2019-** Development and Implementation of the Water Quality and Environmental Monitoring Plan for the installation of a Single Point Mooring at Limetree Marine Terminals, St. Croix.
- 2018-** Development and Implementation of the Water Quality and Environmental Monitoring Plan for the Construction of the Veterans Drive Project on St. Thomas for Virgin Islands Department of Public Works.
- 2014-2018** Development and Implementation of the Environmental Monitoring Plans for the Conversion of VIWAPA to LPG for Vitol, St. Croix and St. Thomas.
- 2014-2018** Development and Implementation of the Environmental Monitoring Plans for the Development of a Dolphin Exhibit for Coral World (VI), Inc., St. Thomas.
- 2013-2018** Development and Implementation of the Water Quality and Environmental Monitoring related to the dredging of the Crown Bay Marine Terminal and Turning Basin, St. Thomas.
- 2016** Development and Implementation of the Water Quality Monitoring Plan for the WICO Emergency Bulkhead replacement, St. Thomas.
- 2013 –2015** Environmental Monitoring of the wetland created as mitigation for the development of VIWMA’s St.Croix Transfer Station
- 2013-2018** Development and Implementation of the Monitoring Plans for VIDPW’s Improvements to Veterans Drive St. Thomas
- 2013-2018** Development and Implementation of the Monitoring Plans for VIPA’s Maintenance Dredging of Crown Bay Marina, St. Thomas
- 2013-2018** Development and Implementation of the Monitoring Plans for Westin Resorts Permitting of the dock and Improvements of Drainage, St. John

2012 –2018 Development and Implementation of the Monitoring Plans for viNGN’s Cable System in the USVI.

2011-20198 Water Quality and Environmental Monitoring Program for the increase in discharge from the Frenchman’s Reef Hotel, St. Thomas

2010-2012 Development of the Water Quality and Environmental Monitoring Program for the development of Thatch Cay, with special emphasize on the ESA listed coral species

2009 Establishment of the baseline for the dredging of Charlotte Amalie Harbor and entrance channel and the filling of the dredged hole in Lindbergh Bay, St. Thomas for West Indies Company

2009 – 2010 Water Quality Monitoring Plan for the Construction of the dock at Frenchman’s Cove, St. Thomas for Marriott Vacation Club, Inc.

2009-2015 Environmental Monitoring for the development of Oil Nut Bay, and YCCS Yacht Club, Virgin Gorda, BVI, for Victor International

2008-2009 Environmental Monitoring of the development of Scrub Island, BVI, for MainSail Development, LLC

2007 – 2010 Water Quality Monitoring for the development of the Calabash Boom Affordable Housing Complex in Calabash Boom, St. John for Reliance Housing

2007 - 2009 Water Quality and Environmental Monitoring for the Subdivision of 77 acres in Hansen Bay, St. John, for Flamboyant

2006- 2008 Water Quality Monitoring for the dredging of the Sand Channel for the V.I. Water and Power Authority

2006-2007 Water Quality Monitoring for the renovations to the Ritz Carlton Hotel, St. Thomas for Ritz Carlton

2006 - 2010 Environmental monitoring for the placement of undersea cables at the Global Crossing Cable Station in St. Croix for Global Crossing Network, ALCATEL and TYCO

2005-2007 Water Quality Monitoring for the dredging of Crown Bay, St. Thomas for the V.I. Port Authority

2005- 2006 Water Quality and Environmental Monitoring for Improvements to the Redhook Marine Terminal for the V.I. Port Authority

2004 - 2011 Water Quality and Environmental Monitoring for the construction of the Pond

Bay Resort, St. John for First American Development Group

2003 - 2006 Water Quality Monitoring for the construction of the Enighed Pond Marine Terminal, St. John, for the V.I. Port Authority

2002 - 2008 Water Quality and Environmental Monitoring for the development of Marine Amenities on the island of Lovango, St. John, for the Joseph Markus Trust

2003 - 2004 Water Quality Monitoring for the development of the Crown Bay Marine Terminal, St. Thomas for the V.I. Port Authority

2002-2005 Water Quality Monitoring for the improvements to the Gallows Bay Marine Terminal, St. Croix, for the V.I. Port Authority

1999-2006 Water Quality Monitoring for repairs to the Frederiksted Pier, St. Croix, for the V.I. Port Authority

2001-2008 Coral Transplant Monitoring for the Enighed Pond Marine Terminal, St. John, for the V.I. Port Authority

2001- 2007 Coral Transplant Monitoring for the Mangrove Lagoon Sewage Treatment Plant Outfall, St. Thomas for the V.I. Department of Public Works

2000 - 2003 Water Quality Monitoring for the dredging of Charlotte Amalie Harbor, St. Thomas, for the V.I. Port Authority

2001 - 2002 Water Quality Monitoring for Improvements to the Tropical Shipping Dock in Crown Bay, St. Thomas for Misener Marine

2000 - 2006 Seagrass Transplant Monitoring for the Seagrass Transplant for the Dredging of Charlotte Amalie Harbor for the V.I. Port Authority

1999- 2002 Water quality monitoring for Construction of Cable Stations at Estate Northside for Global Crossings

1997-2002 Wetland monitoring of the Airport Mitigation Site at the Henry E. Rohlsen Airport for the V.I. Port Authority

1997 - 2002 Wetland monitoring for the Fairplains Mitigation Site at the Henry E. Rohlsen Airport for the V.I. Port Authority

1997- 2005 Water quality monitoring program for Construction of the Christiansted Boardwalk in St. Croix prepared for the Government of the Virgin Islands

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- 1997-2005** Wetland monitoring of Tren Urbano, PR 5 and PR 22 Mitigation *Sites in Puerto Rico under subcontract to Nutter and Associates for the Puerto Rico Highway Authority
- 1996** Water quality monitoring program for Expansion and Improvements to the Redhook Marine Terminal in St. Thomas prepared for the V.I. Port Authority
- 1996** Water quality monitoring program for the creation of The Enighed Pond Marine Terminal in St. John prepared for Maguire Group, Inc. for the V.I. Port Authority
- 1996-1998** Water quality monitoring for the Expansion of the Molasses Pier at the Third Port St. Croix conducted for the V.I. Port Authority
- 1995** Water quality for the Construction of the AT&T Cable Landing Facility, Estate Northside St. Croix, conducted for AT&T Submarine Systems
- 1992-1994** Water quality monitoring program for the Reconstruction of the Frederiksted Pier, conducted for the V.I. Port Authority, St. Croix
- 1992-1993** Establishment of a baseline and long term monitoring of the benthic community potentially impacted by the Water and Power Authority Outfall from the Richmond Power Plant, conducted for the V.I. Water and Power Authority, St. Croix
- 1992-1993** Preparation of a biological monitoring study for the Cooling Pond Discharge, and monitoring of the algal bloom within the cooling ponds; development of management strategies to alleviate algal and runoff problems, the V.I. Alumina Corporation, St. Croix
- 1990-1992** Water quality monitoring for The Dredging Project and Related Activities in Christiansted Harbor, conducted for the V.I. Port Authority, St. Croix
- 1989** Turtle Monitoring Program for Manchineel Beach, St. Croix

LARGE SCALE MITIGATION PROGRAMS UPDATED AUGUST 2019

Development and Implementation of the Compensatory Mitigation Plan for the transplant of approximately 1700 corals, repair of 500 corals of opportunity and outplanting of 3000 ESA listed corals for Limetree Bay Terminal's Single Point Mooring on St. Croix.

Development and Implementation of a Compensatory Mitigation Plan for the relocation of 1.25 acres of seagrass and transplant of 631 corals from the impact footprint of the Veterans Drive Project in St. Thomas.

Development and Implementation of the Mitigation Plan for the relocation of 10,000 corals off the WICO bulkhead in Havensight for West Indies Company in St. Thomas.

Development and Implementation of a coral transplant for the Stabilization of the Seawater Intake line for Marriott Frenchman's Reef, St. Thomas.

Development and Implementation of a coral transplant to minimize construction impacts for LPG Improvements at the VIWAPA facilities on St. Croix and St. Thomas.

Development and Implementation of a coral transplant for Coral World (VI), Inc. in Association with the development of the dolphin exhibit in St. Thomas.

Development and Implementation of the Mitigation Plans for VIDPW's Improvements to Veterans Drive St. Thomas

Development and Implementation of the Mitigation Plans for VIPA's Dredging of Crown Bay Marine Terminal and Turning Basin, St. Thomas

Development and Implementation of the Mitigation Plans for VIPA's Maintenance Dredging of Crown Bay Marina, St. Thomas

Development and Implementation of the Mitigation Plans for Westin Resorts Permitting of the dock and Improvements of Drainage, St. John

Virgin Islands Waste Management Authority creation of an Herbaceous Wetland as mitigation for the construction of the Transfer Station at the Anguilla Landfill, St. Croix

Mainsail Coral Transplant/Seagrass Transplant for impacts associated with the development of the Scrub Island Resort BVI, Bioimpact, Inc. came in and completed the transplant and monitoring began by others (Approximately 3000 Corals)

Victor International Coral Transplant for impacts associated by the development of an access ramp and dock at Oil Nut Bay, BVI (Approximately 300 corals)

V.I. Port Authority Mangrove Mitigation for the construction of the Enighed Pond Terminal in St. John (2.8 Acres of Mangrove Wetland)

Joseph Markus Trust Creation of Acropora Thickets and Artificial Reefs as mitigation for the construction of a barge landing facility on the island of Lovango

V.I. Port Authority Transplanting of coral out of the area of impact for the development of the Crown Bay Marine Terminal, St. Thomas (Approximately 3000 Corals)

Department of Public Works Mangrove Mitigation Project for the construction of the Mangrove Lagoon Sewage Treatment Plant, St. Thomas (Approximately 1 Acre of Mangrove Wetland)

V.I. Port Authority Transplanting of Coral out of the area of impact for the Enighed Pond Marine Terminal Project, St. John (Approximately 50,000 Corals)

Department of Public Works Transplanting of Coral out of the area of impact for the placement of the Mangrove Lagoon Sewage Treatment Plant Outfall, St. Thomas (7,000 Corals)

V.I. Port Authority Transplanting of Coral out of the area of impact for the mooring improvements to the Frederiksted Pier, St. Croix (Approximately 300 corals)

V.I. Port Authority Transplanting of Seagrass from the Dredging footprint for the dredging of Charlotte Amalie Harbor, St. Thomas (Approximately 2 acres)

V.I. Port Authority/Department of Public Works, Mangrove Mitigation Project for the construction of the Molasses Dock Road, St. Croix (Approximately ½ acre)

V.I. Port Authority creation of Herbaceous Wetlands for mitigation at the Henry E. Rohlsen Airport, St. Croix (Approximately 1 acres)

V.I. Port Authority mitigation plan for impact incurred in Fairplains Gut by the VIPA plan for creation of 16,000 Square Feet of Wetland at the Manning Bay Site, St. Croix

V.I. Water and Power Authority plan for creation of 4.1 Acres of Wetland as mitigation of the construction of the South Shore Power Plant, Third Port, St. Croix

Green Cay Plan for mitigation for the impacting of 12 Acres of Wetland for the construction of the Green Cay Resort, St. Croix

ENVIRONMENTAL ASSESSMENT REPORTS 2014-2018

Installation of a Single Point Mooring at the Limetree Bay Terminal, St. Croix, Limetree Bay Terminals, LLC.

Installation of a Submarine Cable System for the V.I. Water and Power Authority, St. Thomas

Veterans Drive Expansion with Parsons Brinckerhoff, for the Department of Public Works St. Thomas

Maintenance Dredging of Krause Lagoon Channel for V.I. Port Authority, St. Thomas

Installation of New Reverse Osmosis Discharge and Intake Line, Westin Resorts, St. John

Shoreline Stabilization Project for Buccaneer Hotel, St. Croix

VIWAPA's conversion to LPG in both St. Croix and St. Thomas.

viNGN Submarine Cable Network with Acatel-Lucent for Virgin Islands Next Generation Network, Virgin Islands

Improvements to the Frederiksted Pier, V.I. Port Authority, St. Croix

Improvements to the Red Hook Marine Terminal, V.I. Port Authority, St. Thomas

Offshore Windmills for Ocean Energy, Inc.

St. John Marina for Summers End Group, St. John

Maintenance Dredging of the Schooner Channel, V.I. Port Authority, St. Croix

Remediation of Hydrocarbon Contamination at the V.I. Seaplane Ramp, V.I. Port Authority, St. Croix.

Maintenance of the Existing Bulkhead and Maintenance Dredging of Charlotte Amalie Harbor, with CH2M Hill for West Indies Company, St. Thomas

ENVIRONMENTAL ASSESSMENT REPORTS 2009-2013

Dredging of Crown Bay Marine Terminal and Turning Basin, V.I. Port Authority, St. Thomas.

Maintenance Dredging of Crown Bay Marina, V.I. Port Authority, St. Thomas

Improvements to Bordeaux Road, with Parsons Brinkerhoff, for V.I. Department of Public Works, St. Thomas.

Improvement to Spring Gut Road, with Stanley Engineer, for V.I. Department of Public Works, St. Croix.

Coral World's Dolphin Exhibit for Coral World (VI), Inc., St. Thomas.

Expansion of the Spratt Bay Homeowners Dock on Water Island.

Veterans Drive Expansion with Parsons Brinckerhoff, for the Department of Public Works St. Thomas

Chiller Cooling System, BaHaMar, HDR, Grande Bahama

Reverse Osmosis Facility at V.I. Water and Power Authority's St. Thomas Power Plant

Submarine Cable for V.I. Water and Power Authority between the Islands of St. Thomas and St. John

Chiller System and Dock repairs at Frenchman's Reef, St. Thomas

Expansion of Heavy Materials Krum Bay Facility, St. Thomas

33 Mega-Watt Waste to Energy Plant Alpine Energy Group, Inc. St. Thomas

18 Mega-Watt Waste to Energy Plant Alpine Energy Group, Inc. St. Croix

Reverse Osmosis Facility V.I. Water and Power Authority, St. John

Seven Hills Development, Robin Bay Partners, St. Croix

Improvements to the Molasses Dock, V.I. Port Authority, St. Croix

Dredging of the Charlotte Amalie Harbor and the Channel and the Filling of Lindbergh Bay, West Indies Corporation, St. Thomas

Fueling Station, V.I. Water and Power Authority, St. Croix

ENVIRONMENTAL ASSESSMENT REPORTS 2005 -2008

Port of Mandahl, MSJ Realty, St. Thomas

North Sound Yacht Club, Victor International, Virgin Gorda, BVI

Reconstruction of the Frenchman's Cove Dock, Marriott Ownership Vacation Club, Inc. St. Thomas

Thatch Cay Development, Thatch Cay, LLC, St. Thomas

Smith Bay Development Smith Bay Developers, Inc. Smith Bay, St. Thomas

Subdivision of Great St. James Christian Kejer, Great St. James Island, St. Thomas

Subdivision of Inner Brass Green Island Developers, Inner Brass Island, St. Thomas

Subdivision of Inner Brass Byran family, Inner Brass Island, St. Thomas

Cabrita Point Major Land Permit Cabrita Point Partners, Lionstone LLC, Cabrita Point, St. Thomas

Cabrita Point Major Water Permit Cabrita Point Partners, Lionstone, LLC, Cabrita Point, St. Thomas

Subdivision of 77 Acres in Hansen Bay on the East End of St. John Flamboyant Realty, St. John

Subdivision of 14 Acres in Hansen Bay on the East End of St. John Hansen Bay Development Group, St. John

Expansions and Improvements to the Ritz Carlton Hotel William Karr and Associates, St. Thomas

Modification to Carden Beach Condominiums TK Properties, Inc. St. Croix

Development of Betty's Hope V.I. Port Authority, St. Croix

Expansion of the Compass Point Marine Margate Management, Benner Bay, St. Thomas

Construction of Maintenance Buildings HOVENSA, St. Croix

Replacement of Existing Stacks HOVENSA, St. Croix

Installation of a Permanent Barge Landing Facility on Lovango Cay Joseph Markus Trust, Lovango Cay

Relocation of the Existing Barge Landing and Construction of a Swim Dock and Beach Enhancing Devices on Little St. James LSJ, LLC, Little St. James

Development of Affordable Housing in Calabash Boom, Reliance Housing, St. John

Demineralized Water System and Storage Tank Upgrades, V.I. Water and Power Authority, St. Croix

Development of a Pizza Bar and Miniature Golf Course, Divi Carina Bay Resort, St. Croix

Placement of Fuel Pipelines on the Ann E. Abramson Pier, Royal Caribbean Cruise Lines, St. Croix

Development of a Marine and Related Infrastructure, Coral Bay Marina LLC, St. John

Development of a Marine Mammal Encountered Facility, Coral World VI, St. Thomas

Improvements to The "Doc" James Race Track, TRAXCO, St. Croix

Maintenance Dredging and the Permitting of Permanent Moorings, Westin Resort, St. John

Construction of the LSF Facility, HOVENSA, St. Croix

Construction of the LSF Project on Uplands, HOVENSA, St. Croix

Construction of the LSF Project on Submerged Lands, HOVENSA, St. Croix

Construction of Modular Buildings, HOVENSA, St. Croix

Construction of Housing in Estate Blessing, HOVENSA, St. Croix

Permitting of an Existing Borrow Pit, HOVENSA, St. Croix

ENVIRONMENTAL ASSESSMENT REPORTS 2000-2004

Compass Point Marina Expansion of the existing marina with Springline Architects, St. Thomas

Emergency Electrical Cable to St. John V.I. Water and Power Authority, St. Thomas/St. John

Richmond Sand Channel Dredging V.I. Water and Power Authority, St. Croix

Hassel Island Electrical Cable Replacement V.I. Water and Power Authority, St. Thomas

Golden Resort Hotel Casino Resort Environmental Assessment Report, St. Croix

Crown Bay Marine Terminal Improvements Environmental Assessment Report with Adams, Inc., St. Thomas

Global Crossings Environmental Assessment Report for the Placement of a Point of Presence in Frederiksted, St. Croix

Innovative Telephone Environmental Assessment Report for the Burial of Fiber Optic Cable on the North Shore of St. Croix

Innovative Telephone Environmental Assessment Report for the Burial of Fiber Optic Cable on the West End of St. Croix

Callaloo Club Blowing Point Environmental Assessment for the Crasion of a marina on Anguilla, BWI

V.I. Water and Power Authority Waterline Environmental Assessment for a waterline between St. Thomas and St. John

V.I. Water and Power Authority Powerline Environmental Assessment for a utility line between St. Thomas and Little St. James

Global Crossings Environmental Assessment Report for the South American Crossing Cable Station at Estate Northside

Water Island Ferry Dock Environmental Assessment Report for the construction of a ferry dock on Water Island

Cuisanart Environmental Impact Assessment for Beach Renourishment, Anguilla, BWI

Cinnamon Bay Environmental Impact Assessment for Development of a Marine Facility, Anguilla, BWI

Crown Bay Benthic Habitat Survey of Crown Bay and Gregerie Channel as a supplement to the USACOE Feasibility Report

Frederiksted Pier Environmental Assessment Report for the Improvements to the Existing Frederiksted Pier, St. Croix

Little St. James Environmental Assessment Report for a Private Dock on Little St. James Island

Government of the Virgin Islands Environmental Assessment Report for Phase II of the Christiansted Boardwalk, St. Croix

Beal Aerospace Environmental Assessment Report for Construction of the World Headquarters Estate Great Pond, St. Croix

ENVIRONMENTAL ASSESSMENT REPORTS 1988-2000

Divi Hotel Environmental Assessment Report for the reconstruction of a dock, St. Croix

Global Crossing Environmental Assessment Report for the construction of a Cable Terminal Building and a corridor for 8 submarine fiber optic cables

HOVENSA Environmental Assessment Report for the Construction of a Coker and Coker Dock at the Existing HOVIC Refinery

V.I. Port Authority Environmental Assessment Report for the construction of a Mooring Dolphin at the Frederiksted Pier

Seaborne Environmental Assessment Report for the Development of a Seaplane Terminal at the old Seaplane Ramp, St. Croix

Forest Bay Environmental Assessment Report for the Development of a Marina and related facilities in Forest Bay Anguilla, BWI

META Resorts Environmental Assessment Report for the development of a Dolphin Lagoon at Meads Bay Anguilla, BWI

Government of the Virgin Islands Environmental Assessment Report for the Construction of a boardwalk in Christiansted, St. Croix

V.I. Port Authority Environmental Assessment Report for the runway extension at the Henry E. Rohlsen Airport under subcontract to LPA Group

V.I. Port Authority Environmental Assessment Report for the expansion of the Redhook Marine Terminal, St. Thomas

V.I. Port Authority Environmental Assessment Report for the creation of the Enighed Pond Marine Facility, St. John

Coral World (VI), Inc. Environmental Assessment Report for the renewal of the submerged land lease for the Coral World Facility, St. Thomas

Cowpet Bay Environmental Assessment Report for the modification of the existing permit for construction of a seawall, St. Thomas

Watergate East Villas Environmental Assessment Report for the Construction of a Rip-Rap Revetment, St. Thomas

Christiansted Boardwalk Environmental Assessment Report for the construction of a boardwalk on the Christiansted Waterfront, St. Croix

V.I. Water and Power Authority Environmental Assessment Report for Improvements to the fuel dock at the Power Generating Facility, St. Thomas

La Domaine Environmental Assessment Report for the subdivision of 40 Acres of Land in Estate Misngunt, St. Thomas

V.I. Port Authority Environmental Assessment Report for the expansion of the Alexander Hamilton Airport Terminal and Highway 64 Relocation, St. Croix

AT&T Environmental Assessment Report for the Cable Landing Facility at Estate Northside, St. Croix

DEVCON Environmental Assessment Report for the Dredging of the Christiansted Sand Channel, St. Croix

VIALCO Environmental Assessment Report for the Expansion of the Red Mud Storage Ponds, VIALCO Alumina Facility, St. Croix

VIALCO Environmental Assessment Report for the creation of a stormwater drainage system, VIALCO Alumina Facility, St. Croix

VIALCO Environmental Assessment Report for the Mining of Caliche, VIALCO Alumina Facility, St. Croix

Molasses Dock/VI Port Authority Consulting on the Environmental Assessment Report for the Molasses Dock Terminal at the Third Port Facility, subcontracted by Frank Torrez, and the V.I. Port Authority, St. Croix

SELECTED ENVIRONMENTAL ASSESSMENT REPORTS 1988 -1993

St. Croix by the Sea Environmental Assessment Report for beach renourishment and the construction of jetties, St. Croix

Vieques Environmental Assessment Report for the creation of a shrimp farm in Puerto Ferro, Vieques, Puerto Rico

MSRC Dock Environmental Assessment Report for the construction of a pier in the HOVIC West Turning Basin, St. Croix

Eden Beach Proposed hotel and condominium project Environmental Assessment Report, St. Croix

Tamarind Reef proposed reconstruction and expansion of the Tamarind Reef Hotel, Hotel, St. Croix

V.I. Water and Power Authority Environmental Assessment Report and U.S. Corps of Engineers Application for the construction of two gas turbines at the Third Port Site, St. Croix

Lovango Cay Environmental Assessment Report for the creation of a subdivision on Lovango Cay Placement of a private dock, St. Thomas

VIALCO Environmental Assessment Report for the construction of a well water gathering system for wells at the Virgin Islands Alumina Corporation's Plant, St. Croix

Crawl Cay Environmental Assessment Report, Wetlands Delineation and Hammock Studies of Crawl Cay, Florida, for Monroe County

Jack's Bay Environmental Assessment Report for the subdivision of Approximately 300 Acres into 64 lots at Estate Jack's and Isaac's Bays, St. Croix

VIALCO Environmental Assessment Report for the Expansion of the Bauxite Building at the Virgin Islands Alumina Corporation's Alumina Facility, St. Croix

Carambola Beach Club Environmental Assessment Report for the repair and improvement of the Carambola Beach Club facility prepared for Danested, St. Croix

Salt River Environmental Impact Statement for the proposed National Park at Salt River, St. Croix, prepared for the National Park Service

V.I. Water and Power Authority Environmental Assessment Report for the Construction of a desalination unit on St. John, prepared for the V.I. Water and Power Authority, St. John

Carmel by the Sea Environmental Assessment Report for the Construction of a 95 unit condominium at Estate Turner's Hole, St. Croix

VLBA Environmental Assessment Report and Landscaping Plan for the Very Long Baseline Array, St. Croix

Buccaneer Environmental Assessment Report for 20 room addition to the Buccaneer Hotel, St. Croix

Ritz Carlton Zoning Application and Environmental Assessment Report for a 350 report for a 350 room Hotel, Estate Davis Bay, St. Croix

Frederiksted Pier Environmental Assessment Report for the construction of a second pier in Frederiksted, St. Croix

Kingston Environmental Assessment Report for Hotel and Condominium Construction, Kingston, Tortola

Airport Warehouse Environmental Assessment Report for construction of a Warehouse Facility at the Alexander Hamilton Airport, St. Croix

Great Pond Environmental Assessment Report, Zoning Application, and COE Permit Application for a Hotel and Condominium Project at Estate Great Pond, St. Croix

ENVIRONMENTAL ASSESSMENT REPORTS 1986-1988

Southeast Peninsula, St. Kitts
Columbus Landing, St. Croix
Grapetree Beach, St. Croix
Blue Beards Beach, St. Thomas
St. Croix by the Sea, St. Croix
Divi Dive Canal, Nassau, Bahamas
Ensenada, St. Croix
Virgin Grand, St. Croix
Sugar Bay, St. Croix
Turtle Run, St. Croix
Palm Shores, St. Croix
Baobab, St. Croix
Reflection Bay, St. Croix
Coakley Bay, St. Croix
Green Cay, St. Croix
Turquoise Bay St. Croix
Eagle Bay, St. Croix
Granard, St. Croix
Concordia, St. John

ENVIRONMENTAL ASSESSMENTS

Sampling of USTs for Domino Oil on St. Thomas 2016-2017
Sampling of the LUSTs at the VIPA's Seaplane Ramp, St. Croix 1994, 2011, 2012-2016
Sampling for REC Estate Anna's Hope, St. Croix 2012-2016
Sampling for petroleum products at gasoline stations and industrial sites in St. Croix 2006-2016
Sampling for chemical contamination in cisterns in St. Croix 2000- 2011
Sampling for mold Renaissance Hotel, St. Thomas
Sampling for REC residential and commercial properties St. Croix, St. Thomas, St. John and
Puerto 1990 - 2018

APPENDIX II



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006

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Vessel Strike Avoidance Measures and Reporting for Mariners NOAA Fisheries Service, Southeast Region

Background

The National Marine Fisheries Service (NMFS) has determined that collisions with vessels can injure or kill protected species (e.g., endangered and threatened species, and marine mammals). The following standard measures should be implemented to reduce the risk associated with vessel strikes or disturbance of these protected species to discountable levels. NMFS should be contacted to identify any additional conservation and recovery issues of concern, and to assist in the development of measures that may be necessary.

Protected Species Identification Training

Vessel crews should use an Atlantic and Gulf of Mexico reference guide that helps identify protected species that might be encountered in U.S. waters of the Atlantic Ocean, including the Caribbean Sea, and Gulf of Mexico. Additional training should be provided regarding information and resources available regarding federal laws and regulations for protected species, ship strike information, critical habitat, migratory routes and seasonal abundance, and recent sightings of protected species.

Vessel Strike Avoidance

In order to avoid causing injury or death to marine mammals and sea turtles the following measures should be taken when consistent with safe navigation:

1. Vessel operators and crews should maintain a vigilant watch for marine mammals and sea turtles to avoid striking sighted protected species.
2. When whales are sighted, maintain a distance of 100 yards or greater between the whale and the vessel.
3. When sea turtles or small cetaceans are sighted, attempt to maintain a distance of 50 yards or greater between the animal and the vessel whenever possible.
4. When small cetaceans are sighted while a vessel is underway (e.g., bow-riding), attempt to remain parallel to the animal's course. Avoid excessive speed or abrupt changes in direction until the cetacean has left the area.
5. Reduce vessel speed to 10 knots or less when mother/calf pairs, groups, or large assemblages of cetaceans are observed near an underway vessel, when safety permits. A single cetacean at the surface may indicate the presence of submerged animals in the vicinity; therefore, prudent precautionary measures should always be exercised. The vessel should attempt to route around the animals, maintaining a minimum distance of 100 yards whenever possible.

6. Whales may surface in unpredictable locations or approach slowly moving vessels. When an animal is sighted in the vessel's path or in close proximity to a moving vessel and when safety permits, reduce speed and shift the engine to neutral. Do not engage the engines until the animals are clear of the area.

Additional Requirements for the North Atlantic Right Whale

1. If a sighted whale is believed to be a North Atlantic right whale, federal regulation requires a minimum distance of 500 yards be maintained from the animal (50 CFR 224.103 (c)).
2. Vessels entering North Atlantic right whale critical habitat are required to report into the Mandatory Ship Reporting System.
3. Mariners should check with various communication media for general information regarding avoiding ship strikes and specific information regarding North Atlantic right whale sighting locations. These include NOAA weather radio, U.S. Coast Guard NAVTEX broadcasts, and Notices to Mariners. Commercial mariners calling on United States ports should view the most recent version of the NOAA/USCG produced training CD entitled "A Prudent Mariner's Guide to Right Whale Protection" (contact the NMFS Southeast Region, Protected Resources Division for more information regarding the CD).
4. Injured, dead, or entangled right whales should be immediately reported to the U.S. Coast Guard via VHF Channel 16.

Injured or Dead Protected Species Reporting

Vessel crews should report sightings of any injured or dead protected species immediately, regardless of whether the injury or death is caused by your vessel.

Report marine mammals to the Southeast U.S. Stranding Hotline: 877-433-8299

Report sea turtles to the NMFS Southeast Regional Office: 727-824-5312

If the injury or death of a marine mammal was caused by a collision with your vessel, responsible parties should remain available to assist the respective salvage and stranding network as needed. NMFS' Southeast Regional Office should be immediately notified of the strike by email (takereport.nmfs@noaa.gov) using the attached vessel strike reporting form.

For additional information, please contact the Protected Resources Division at:

NOAA Fisheries Service
Southeast Regional Office

263 13th Avenue South
St. Petersburg, FL 33701

Tel: (727) 824-5312

Visit us on the web at <http://sero.nmfs.noaa.gov>

APPENDIX III

FLOATING TAKE-OUT RESTAURANT OPERATION
MOORING AND SEA FLOOR AND MAINTENANCE PLAN
LINDBERGH BAY, U. S. VIRGIN ISLANDS

Lime Out 2, LLC (the “Applicant”) is proposing to moor a floating take-out restaurant in Lindbergh Bay, St. Thomas, and to install 10 moorings for vessels visiting the restaurant. The floating restaurant will be 53’ in length and 20’ in width and anchored with 4 helix type anchors with floating lines to avoid impact to the seafloor. The floating restaurant has been located to avoid benthic resources and 10 moorings are proposed to minimize anchoring by restaurant patrons.

In order to ensure moorings are in good condition and to avoid inadvertent impacts which could occur due to the loss of items and debris overboard from the restaurant or from mooring vessels the following mooring and seafloor monitoring and maintenance plan will be implemented during the operation of the floating take out restaurant.

Monitoring and Maintenance

On a monthly basis each mooring will be inspected to ensure that they are in good working condition and that there is no damage that needs to be repaired. If shackles or other tackle appears to be worn it will be replaced immediately.

On a weekly basis and prior to any removal of the vessel from the site, a diver survey will be made of not only the area 20 meters out from the floating take out restaurant but also around each mooring. Any items which may have been dropped in the water will be collected. This includes things such as sunglasses, hats, t-shirts and other items that may have accidentally been dropped or blown into the water. All trash found within the area will be removed and properly disposed of on shore. Any valuables such as wallets will be returned to the owner if possible.

APPENDIX IV

LimeOut St. Thomas Hurricane Preparedness Plan

Introduction

Lime Out, LLC is proposing to operate a floating takeout restaurant in Lindbergh Bay St. Thomas. In order to protect its assets and the surrounding environment Lime Out, LLC proposes to implement this Hurricane Preparedness Plan.

The Virgin Islands are within a very active hurricane zone and while major storms do not occur every year numerous storms impact the territory each year. Hurricane tracking has allowed advanced warnings of impending storms. And while there are months hurricanes are more frequent, hurricanes can and have occurred outside the typical hurricane season.

Because this is a marine operation and dependent on suitable sea conditions Lime Out, LLC will keep watch on marine conditions.

When a storm is approaching the following procedures will be undertaken.

Hurricane Preparation:

- Prior to the start of Hurricane Season a suitable safe harbor will be identified where the vessel can be taken to.
- When a tropical depression forms the management and staff will start following the situation
- If the tropical depression threatens to approach St. Thomas, the staff and management will start preparing to relocate the vessel if necessary. This includes limiting supplies and fuel on the vessels.
- When the storm becomes named and is within 72 hours of St. Thomas, loose supplies and equipment will be removed from the vessel and work will begin to make sure there are no loose items on the vessel.
- For Category I or II hurricanes without significant seas and are not expect to develop further: When the storm is 48 hours from St. Thomas the vessel will be taken from the mooring and taken to the safe harbor and properly secured. At present the intent is to take the vessel into Flamingo Bay Pond, which has been designated a Hurricane Hole. All fuel and supplies will be removed from the vessel as well as any loose items. If this designation changes another Hurricane Hole will be utilized.
- For Category III hurricanes and higher or storms expected to have significant seas or which area expected to become Category III or higher: The vessel will be removed from the water. The dry dock in St. Thomas has indicated that they will be able to safely lift the floating restaurant from the water and place it on the Home Port Dock or other suitable location or on a transport.
- The mooring buoys and their tackle for the barge and for the patrons of the restaurant will be removed from the helix anchors once the floating restaurant has been removed. This will prevent loss and damage and will prevent environmental damage which could be caused by the buoys coming loose.
- Lime Out, LLC will follow all VITEMA and USCG instructions. And the restaurant will only return to site once all danger has passed.



VIRGIN ISLANDS PORT AUTHORITY

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April 8, 2021

Angelo Raimondi,
St. Thomas, VI
409-392-8004

Good afternoon Mr. Raimondi, as per our discussion regarding the *Lime Out 2's* hurricane storage plan please see the following.

1. *Lime Out 2* is granted access to the Home Port Dock in Crown Bay if hauled out by crane and secured in accordance with their Named Storm Evacuation Plan.
2. *Lime Out 2* is also granted access to the area of the Frenchtown boat ramp adjacent to the Sandfill Cargo Terminal no earlier than Port Condition YANKEE, and no longer then 24 hours after the ALL CLEAR / Port Condition 4 has been set by the United States Coast Guard.

If you may have any further questions, please feel free to reach out to me directly.

Capt. Matthew Berry
Virgin Islands Port Authority
Marine Manager STT/ STJ
C: 340-201-8518

